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MEDICAL REVIEW.

BY A  
*SOCIETY OF PHYSICIANS AND SURGEONS.*

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VOLUME THE EIGHTH:  
*INCLUDING SIX MONTHLY NUMBERS,*  
FROM FEBRUARY TO JULY 1802.

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*Solus veritatis amor, et communis utilitatis studium, ad has partes  
suscipiendas impulerunt.* BAGLIVI Oper. in Præf.

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# PREFACE

TO THE

*EIGHTH VOLUME.*

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THE Proprietors and Conductors of the LONDON MEDICAL REVIEW are exceedingly concerned to have occasion to apprise their friends, that, for want of sufficiently extensive encouragement, the PRESENT Number will be the LAST of its PUBLICATION.

In taking leave of the Public, they are conscious that they have nothing to reproach themselves with; on the contrary, they look back on their labours with heartfelt pride, and believe that this Work will long maintain an honourable degree of reputation in medical literature.

Their want of success they candidly ascribe to the ascendancy which a rival and contemporary publica-

tion, the MEDICAL and PHYSICAL JOURNAL, has deservedly acquired: and in lamenting their own want of success, they have, as public men, the consolation to consider that the interests of medicine and science are in the most able hands, and will suffer nothing from the abandonment of this Work.

They have, indeed, communicated their intentions to the respectable EDITORS of the MEDICAL and PHYSICAL JOURNAL; and those Gentlemen have willingly agreed to supply the chasm which might have existed in medical literature, by enlarging the critical department of their work in future, and by analyzing all new books with unvarying punctuality.

*London, June 1802.*



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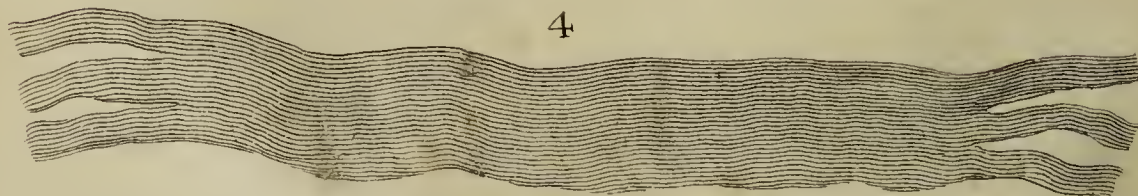
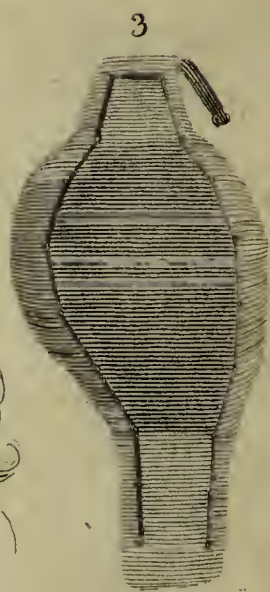
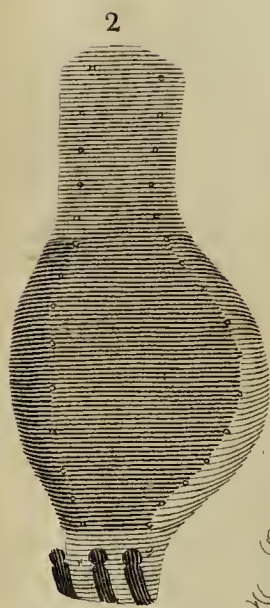
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FIG. I.



*See page 10*



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THE  
LONDON MEDICAL REVIEW.

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VOL. VIII. N<sup>o</sup> XXXVI. FEBRUARY MDCCCII.

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ART. I. *A new Medical Dictionary, or general Repōitory of Physic: containing an Explanation of the Terms, and a Description of the various Particulars relating to Anatomy, Physiology, Physic, Surgery, Materia Medica, Chemistry, &c. each Article, according to its Importance, being considered in every Relation to which its Usefulness extends in the healing Art.* By G. MOTHERBY, M.D. Fifth Edition: revised and corrected, with considerable Additions, by GEORGE WALLIS, M.D. Author of the Art of preventing Diseases and restoring Health; an Essay on the Gout; and Editor of Sydenham's Works, with Notes; &c. Folio. 811 pages. JOHNSON, London. 1801. Price 3*l.* 3*s.*

THE character of the work before us has been so long established, and its use is so familiar to the medical world, that we shall not detain our readers with a complete analysis of the whole book; but we shall principally confine ourselves to the alterations and improvements, which render this (the fifth) edition more complete than the preceding, and shall point out those parts which appear to us to be defective. A dictionary-maker always deserves well of science, and his readers have a right to expect from him, industry, skill, and fidelity, in the selection and arrangement of his materials. The branches of science professed to be contained in the work before us are those of Anatomy, Physiology, Physic, Surgery, Materia Medica,

VOL. VIII. N<sup>o</sup> XXXVI. and



and Chemistry, besides a few other articles of less importance and extent.

The fourth edition was published in 1795, since which time there have been some additions to the stock of knowledge in the above branches of science, and some change in the theories which regulate the practice of medicine, but not of sufficient magnitude to require any very material alteration in the general matter of which this volume is composed.

The editor has retained the several prefaces to the successive editions, and he has prefixed to the present the following short notice :

“ With regard to the Fifth Edition, it is only necessary to observe that further improvements have been added, by the insertion of a variety of practical discoveries which have occurred since the publication of the Fourth.

“ These additions will be extremely useful, as many of them furnish new and successful modes of treatment, in several cases which have been too frequently fatal ; and also some arrangements of cuticular diseases particularly, which have long laid in a state of great confusion ; to which are annexed their different modes of cure.

“ Besides, as the practice of Physic and Surgery is not now confined to men of classical education, but diffused amongst a great number of practitioners totally unacquainted with the Latin, Greek, and other dead languages, from whence a variety, nay, almost all, the technical terms belonging to the medical art are deduced ; and as these men are fond of freely dealing out such terms, in a mode which often brings disgrace upon themselves, from their ignorance of the proper pronounciation, the Editor has been at the trouble of accenting the Words, in order that this error may be avoided ; and that contempt, which the intelligent auditor too frequently bestows, be prevented. The Editor also has taken some pains in affixing the derivations to the Words, which he considers as beneficial in showing their original meaning, and being serviceable in settling their appropriate application. For he has frequently known men, who rashly launch into the sea of ink, desirous of becoming authors for reputation-sake, make very shameful misapplications, and lessen at least, if not destroy, that character which they labour to acquire.

“ As the medical art is receiving continual improvements from observation and facts, the result of industry and experience, so is it the duty of every editor to insert such as appear to be of manifest utility to the practitioner : to these alone has he attended ; and he flatters himself, that, by the variety



variety of useful additions made to this Fifth Edition, it will be considered as much increased in its value and utility."

The authorities quoted in the various parts of this work, and the books from which it is composed, are in general those whose value is universally acknowledged: some of them were more read and consulted a century ago than at present; but if we still meet with the names of Dioscorides and Paracelsus, due weight is given to the more respectable authorities of Sydenham, Hoffman, and Lewis.

The anatomical part of this work is in general executed with a fidelity and accuracy sufficient for description in detail; and we have not observed any important errors. The articles which occur entire in the authorities from which they are supplied, (as for instance the description of particular muscles,) are clear and precise; but the anatomy of the more complicated organs of the viscera, and other parts more peculiarly connected with physiology, wants that elegant arrangement and compression which is the result of a full and comprehensive knowledge of the subject. It must be allowed, however, that the form of a dictionary, in which the leading articles of any subject are dispersed in different parts of the works, is not well calculated for that exhibition of the various respective uses and mutual action of organs which constitutes physiology: for example; if the reader wishes to learn the peculiarities of the foetal circulation, he will find under the article *Fœtus* a simple enumeration of the blood-vessels of the foetus, and under that of *Circulation* the uses of these parts but imperfectly described in the following manner:

"The circulation of the blood in the foetus hath some peculiarities different from what is observed in adults: 1st, The blood does not all pass through the lungs; a very small part only each time that it returns to the heart. 2dly, The blood brought by the two *venæ cavæ* into the right auricle of the heart passes chiefly into the right ventricle, but not entirely; for some portion goes immediately through the *foramen ovale* into the left auricle, and especially that brought up by the *cava inferior*. Suppose then two-thirds of the blood got into the right ventricle, in order to pass along the pulmonary artery; yet all the blood that flows into it in the foetus will not *circulate* through the lungs, for a considerable part must necessarily pass by the *ductus arteriosus*, directly to the aorta, before it hath arrived at the lungs; so that probably not above one-third of the blood *circulates* through the lungs every time it is brought back to the heart. That blood which was thrown out directly



from the right to the left auricle goes thence to the left ventricle, and so on to the aorta, without touching at either the right ventricle or pulmonary artery, and consequently not coming to the lungs. After the child is born, and a little grown up, the foramen ovale becomes closed up in most subjects, though in some instances it is found to continue more or less open during the whole life of the person."

The anatomical description of the liver is clear and concise; we shall give it as a specimen of the whole.

"JECUR, (from the Hebrew term *jaker*). The LIVER; called also *hepar*, the upper part *erix*. Immediately below the diaphragm, on the right side, is placed the *liver*, whose small lobe is still contiguous to the diaphragm, and goes to the scrobiculus cordis. It is divided into two lobes besides the *lobulus Spigelii*, which Hippocrates calls *hyperchoryphoses*; the large lobe is situated on the right hypochondrium, contiguous to the diaphragm; it reaches as far back almost as the spine, and rests upon the right kidney; the small lobe runs close to the diaphragm, as far as the spleen. The convex side of the *liver* is usually connected to the diaphragm by three ligaments, which are continuations of the peritonæum; one lies near the edge of the extremity of each lobe, and one in the middle, and they are accordingly called the right, and left, and middle ligaments. The *liver* is likewise connected to the right ala of the tendinous part of the diaphragm by a broad adhesion, which is the reflection of the peritonæum, and is called the CORONARIUM LIGAMENTUM. Under the great lobe, a little to the right, we see the gall-bladder. The smaller lobe of the liver is in the left side, which is distinguished above by a membranous ligament, and below by a large scissure in the same direction as the superior ligament. The eminences on the concave side of the *liver* belong to the great lobe; the principal one is a triangular mass, situated backwards near the great scissure, which mass is named *lobulus Spigelii*; this lobe is attached by a little peduncle to the middle of the lower side of the great lobe. The *first fissure* we observe, next to the great one, is a notch at the anterior part of the liver, for the reception of the ligamentary remains of the vena umbilicalis; the second fissure is towards the posterior part of the liver, between the *lobulus Spigelii* and the little lobe, where we observe the remains of the ductus venosus, which runs to be inserted into the vena cava, and is peculiar to the foetus; upon the right of the *lobulus Spigelii*, between that and the great lobe, is another fissure, in which the vena cava runs down;



down; the next fissure is a transverse one, situated before the lobulus Spigelii: this is called porta: besides these, on the fore part of the great lobe there is a depression, for the reception of the gall-bladder; and we may observe on the under side of the great lobe a small cavity, where it rests on the right kidney.

“ The principal vessels of the liver are, 1st, From behind the pancreas, a mass of vessels and nerves run up to the porta. 2d, The hepatic artery comes off from the cœliaca, and divides it into two branches, one of which goes to each lobe. 3d, The vena portæ, when it arrives at the porta, likewise divides into two, one of which enters the right, and the other the left lobe. 4th, From the duodenum and pancreas we see the *porus biliaris*, ductus communis choledochus, which, at a distance from the porta, divides into two ducts, viz. the cystic, which goes to the gall-bladder, and the hepatic, which again is subdivided into two, which go to their respective lobes. 5th, The vena cava, in its passage through the diaphragm, sends off several branches, especially two which go to the liver, and are called venæ cavæ hepaticæ; their office is to throw the blood into the vena cava, after the bile is secreted. 6th, The blood from all the viscera is returned to the vena portæ, which ramifies through the liver like an artery; the lower part of this vessel is called vena portæ mesenterica; the upper hath the name of hepatica given to it. Lastly, we may observe, that the greatest part of these vessels are enclosed in a membranous sheath, which, from Glisson, who first took notice of it, is called capsula Glissoniana. This author describes it as composed of cellular membranes, nerves, and peritonæum, which, he alleges, not only cover the vessels at their entrance, but ramifies through the liver with them; but the peritonæum must be absolutely excluded, for the nerves and cellular membrane only go through the liver.

“ The external surface of the liver is smooth, and covered with the peritonæum, which membrane is not only tied to the liver by the membrana cellularis, but by the vessels which run out to be spread upon it. The liver, except for the vessels, is very soft, and like a piece of congealed blood. Malpighi examined this, and brought it out to be a congeries of folliculi, where the vessels terminate and form the bile. Ruysch makes it a congeries of vessels, even in the tenderest part of it. The penicilli of Ruysch are a collection of vessels upon the surface; according to this author, the vessels do not terminate in the penicilli, but become infinitely finer; whence this viscus cannot



not be structured as Malpighi imagines. The liver, according to the ancients, was the viscus wherein the chyle was converted into blood; but since the knowledge of the lacteals, and the discovery of the circulation of the blood, we know that the use of the liver is to secrete the bile. There are two kinds of blood which come to the liver, viz. the arterial by the hepatic artery, and venal by the vena portarum; a greater quantity of blood is sent by the latter than by the former, as it brings the blood from the splenic, mesenteric, &c. veins; this latter also is that by which the bile is secreted. See Winslow's Anatomy, and Haller's Physiology, lecture xxvii."

We were surprised to find the use of mercury, as an anatomical injection, not even noticed; and indeed the article *Injectio* (anatomical) is much too concise and barren of information: the subject would have well deserved a greater degree of attention.

In the physiological articles we immediately turned to the highly important office of respiration, which has been more illustrated by modern discoveries than any other of the animal functions, and in which we might expect to trace those additions to the original work which the editor professes to have made in the several successive editions. The article *Respiratio* stands thus in the present edition:

"*RESPIRATIO*, (from *respiro*, to take breath). *BREATHING*, called also *anapneusis*. It is the action of taking in and discharging the air from the lungs, including, therefore, inspiration and expiration. As soon as the child is born, the air rushes into its lungs and distends them; and as heat rarefies the air, its force is so increased, that by expanding the lungs the whole breast is distended: thus the rarefying air, distending the lungs every way by its natural spring, increased by heat, may be considered as the first mover in the action of respiration. By this first distention of the lungs it happens that the blood which had hitherto passed by the foramen ovale, whilst the foetus continued in the womb, is now obliged to take a different way, and pass by the pulmonary artery and veins; and the former passage, by this means, is rendered useless. *This makes it necessary that respiration be continued for ever after during life.*

"As the spring of the air is increased by the heat of the lungs, so the same air, rarefied by the heat it meets with, becomes lighter than the external air, and is made to reascend by the contraction of the diaphragm and intercostal muscles, which are antagonist powers to the dilating one of rarefied air.

"After



“ After the first expiration, a portion of the inspired air remains, which is rarefied by the heat to which it is subjected; thus the external or atmospherical air again descends into the lungs; and as in the first instance of *respiration* the same circumstances follow, so inspiration and expiration continue to succeed, until with the last expiration death is ushered in.

“ *Respiration* is partly voluntary and partly involuntary; but, as we determine this or the other muscle to action by the influence which our wills have on them, so we exert a similar power on the organs of *respiration* by the same means.

“ Some assert that the elevation of the breast by means of the intercostal muscles is necessary to inspiration; but perhaps a due attention to these muscles will discover to us that their action is only during expiration, and if so their theory falls to nothing.

“ The uses of *respiration* are many, some of which are as follow: by *inspiration*, air is duly received into the lungs, in order to the exerting of our voices, and to impregnate the blood with a general stimulant of the habit, considered by some as *matter of heat*, by which the circulation of the fluids is supported, and the different offices of the animal economy performed with regularity: by *expiration* the defect of perspiration through the skin is in a good degree regulated; for much of the perspirable matter is carried off from the body with the air which is expired; and in cold weather, &c. when the discharge is lessened through the skin, there is a proportionable increase of the same from the lungs. Again, as the pulse is accelerated by heat, so is the action of the lungs; whence an advantage of inspiration is, the cooling of the blood by the application of cold to that portion of it which is passing through the lungs, as well as by expiration, to carry off a portion of redundant heat along with the matter perspired. Lastly, by the action of the parts subservient to *respiration*, the progress of the aliment through the stomach, &c. as also of the fæces through the intestines, is facilitated and hastened.

“ See Haller's Physiology, lect. 10. Hoadley on *Respiration*. Shebbeare's Theory and Practice of Physic, and PULMONES in this work.”

In consulting the article Pulmones, the whole of the author's observations on the function of the lungs are confined to the following paragraph:

“ As to the use of the lungs, Dr. Rutherford of Edinburgh says, that the good state of them seems to have an influence  
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on sanguification; he says, that they are of more consequence than any other viscus for making good blood, and that, whenever their action is weakened, the blood grows thinner in proportion. Many other conjectures are made on this subject; among which the most important are, that from the air received by inspiration, a necessary principle is imbibed in order to life and health; and that with the air carried out from the lungs, a quantity of matter is also carried from the blood, which, if retained, would either be a redundant load, or otherwise injurious. Dr. Priestley asserts, that a principal use of the lungs is to carry off redundant phlogiston from the blood."

Surely the state of knowledge on this subject in the year 1795, (the date of publication of the edition of this Dictionary immediately preceding the present,) would have now enabled the editor to present his readers with more copious and accurate information on the uses of respiration! The antient opinion on the use of taking in air within the lungs in order to cool the blood, is still retained by the author in the following sentence: "As the pulse is accelerated by heat, so is the action of the lungs, whence an advantage of inspiration is the *cooling* of the blood by the application of cold to that portion of it which is passing through the lungs." This is, indeed, blowing hot and cold with the same breath! In justice to the editor, however, we must observe, that if the reader happens accidentally to see the article AIR, (VITAL,) he will find some notice of its use in respiration in the following words:

"AIR, VITAL; called also *dephlogisticated*, *empyreal*, *highly respirable air*. It is considered to be, what chemists term, the *oxygenous gas*, part of the atmospheric *air*, and is the only gas proper for respiration; the phenomena of which have been very imperfectly known till lately. The ancients are said to have had the most accurate ideas of respiration; they admitted the *air* as a principle proper to nourish and support life; hence called *pabulum vitæ*; and Hippocrates expressly says, 'spiritum etiam alimentum est.' From a variety of experiments modern philosophers have proved, that in respiration a portion of *air* is abolished; that the first effect which is produced is the blood assuming a vermilion colour, by combining with pure air. The second is to establish a real focus of heat in the lungs, maintained and kept up by the *air* of respiration; for persons who have respired vital *air* have confessed, that they perceived a gentle heat vivifying the lungs, and insensibly extending from the breast into all the other parts of the body. *Vital air* is considered, by combining with the blood,

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to form carbonic acid, allowed to be an antiputrescent, so long as it remains in circulation, but that it is afterwards emitted through the pores of the skin. It has been used with success in certain disorders of the human machine, particularly in consumptions."

It would appear, that the original compiler of this work thought very meanly of the importance of the physiological part; for we have observed, with some surprise, that many articles, concerning which much curious information has been collected, and much interesting disquisition has been agitated, by the Hallers and Boerhaaves of every age, have been dismissed with very little ceremony in the work before us. Take the article *Secretio* as a specimen:

"*SECRETIO*, (from *secerno*, to separate.) *SECRETION*. The various *secretions* are all from the blood; but how it happens that each *secretory* vessel at first separated a particular part from the general mass, and always continues to do the same, is perhaps not so clearly understood as is supposed. See Haller's Physiology, lect. 8. Pemberton's Physiology, lect. 7."

From the physiology of this work we turn with much more satisfaction to the *Physic*. This, which in the number and extent of the articles far exceeds any of the other departments, contains a large portion of valuable matter, and such as cannot fail of proving highly useful to the student; if, indeed, he is well acquainted with his Sydenham and his Cullen, he will seldom find much new information; but it is the business of the compiler to give the best authorities, however familiar to his readers.

Of the great number of articles belonging to *Physic*, there is none which appears to be more laboured by the editor than that of *Fever*, and with considerable success. The classification of fevers, and the detailed description of the train of symptoms which constitute inflammatory fever, are included in the article *FEBRIS*; and the important species of *Nervous* and *Putrid Fever* are referred respectively to these heads.

The attempt which several highly respectable writers have made to draw an exact line between the varieties of *Synocha*, *Synochus* and *Typhus*, no where appear so unsuccessful as when the several descriptions of these forms of disease are made totally unconnected with each other, and placed in separate parts of the same work. Thus, under the article *Febris* in the present work, that very characteristic symptom, *increased heat*, is noticed in the following terms:



“As to the diagnostics of *fevers*, they vary, for the most part of them, in different patients, and in the same patient at different times; and a *fever* may manifestly exist, though many of the usual attendants be not present. However, it is sufficient to know that the pathognomonic signs of a *fever*, that is, those signs that are present in every *fever*, and without which a *fever* cannot subsist, are *heat* and a *disordered pulse*; these attend every *fever*, every degree and every stage of it; and from these marks alone do we judge of the presence or absence of this disorder.

“As a preternatural heat excited is a principal constituent of a *fever*, so to this circumstance may be attributed many of the symptoms which attend in its different stages. But it should be adverted to, that the same degree of heat is not in the same degree immoderate in different persons, for the natural temperament varies greatly in one from what it is in another; therefore that degree of heat is moderate, or its contrary, which is nearest or furthest from the natural state of the individual in that respect.

“*The only indication of cure is*, to abate the heat. To answer this one indication, will require some circumstantial differences in different cases; but the pulse and urine will always direct the judicious practitioner in those particulars.

“Every *fever* is a symptom of some disease, either manifest or latent; and as the secretions are disturbed more as this symptom increases, the immediate suppression of it will at once appear to be the necessary aim. Both the secretions and excretions are best performed in a regular state of health; when then the *fever* is subdued, medicines adapted to the disorder which produced it are more at liberty to act, and nature is also better able to discharge what is morbid.

“*Contraries are the cure of contraries*; and cold, the natural opposite to heat, is its certain antidote. Hippocrates, Galen, Celsus, Avicenna, and all the ancients, used the present cold method of relieving from *fevers*. They expose their patients to cold air; they give them cold water to drink, and that not only to satiety, but also often to make them vomit.

“Proper evacuations being made, if possible, let the patient walk in the cool air; if he is incapable of this, let him be exposed to it in his room; the windows may be opened, and the chamber sprinkled frequently with water: if this suffice not, let him drink cold small liquors in proportion to his thirst, and put his hands and feet into vessels of cold water, there



there to remain, at least until the sensations it produces are no longer quite agreeable. When, by these means, a tendency to sweat appears, assist it by such diluting liquors as the case requires: as the patient's heat abates, and his thirst is lessened, let his drink be given warm."

And again, the direct remedy for increased heat.

"COLD WATER. Hippocrates says, 'If the patient is very thirsty whilst labouring under an acute *fever*, cold water is of great use, if given till it makes him vomit.' Celsus advises the use of cold water, and directs the patient to drink it even beyond satiety. Galen says, 'that cold water is a perpetual remedy against the *fever* itself.' He directs its use both in ardent and putrid *fevers*, and even to immerse the patient in the cold bath, if a copious drinking of it does not suffice. Paulus says, 'that the heat may be extinguished by cold water, by which we have wholly cured burning *fevers*:' and elsewhere he says, that 'the cold bath alone is of use to those who labour under an ardent *fever* without an inflammation, a tumour, or an erysipelas.' To the same purpose many others of the ancients speak, and the practice continued about fifteen hundred years. Indeed, among the moderns, there are, and have been those, who pursue the same practice; they proportion the degree of cold to the degree of heat, and continue its use until the abatement of inward heat, and the pulse, foretel that this disorder is entirely subdued. The patient's sensation will, with very little attention, determine the necessary degrees of cold and heat in the management of them under *fevers*: *that degree which feels the most agreeable is the proper one.* To render the use of cold water more effectual, small quantities of tamarinds, crystals of tartar, or kali tartarisatum, may be dissolved in it; apples, or other fruits, or mucilaginous matters, such as lint seed, or marshmallows, may be previously boiled in it.

"This practice of the ancients respecting cold water in ardent *fevers*, or exposure to severe degrees of cold, is at present a hazardous practice; and however proper it may appear to be, it should be advised with great caution; and nothing but a certainty of success should induce at least young practitioners to direct it, in the manner as above recommended: the world would readily condemn it for its apparent rashness, and one accident tend to destroy a reputation perhaps meritoriously obtained."

Is not this the precise part (the reader may ask) in which to mention the affusion of cold water in febrile complaints, so



strongly recommended by Dr. Currie in his admirable work, and which promises to be of the highest benefit, from the testimony of numerous and accurate trials? However, we find no notice taken of this practice till we turn to the article *Nervosa Febris*, where the use of cold affusion is indeed mentioned, but introduced here with less propriety than any where else, as it is almost peculiar to the nervous or low fever to be, for the most part, without that high *fever*, or increase of animal temperature, which can alone render cold affusion safe and beneficial.

The chief authorities from which the editor has given the description of putrid fever, are, Huxham and Pringle; but it will appear surprising to the reader, that so little of the *modern practice* in typhus is introduced, that even the use of wine and opium is entirely omitted, or only hinted at in a single sentence.

The following account of the memorable and fatal yellow fever, extracted principally from Dr. Currie, is added to the present edition:

“*FEBRIS EPIDEMICA CONTAGIO'SA. Epidemic Fever of the West Indies and Philadelphia; named, by C. CHISHOLM, M.D. surgeon, malignant pestilential fever; by Dr. RUSH, bilious remittent yellow fever; and by Dr. CURRIE, synochus icteroïdes, or yellow fever.*

“This fever, which proved so fatal in the West Indies and America, is considered as an epidemic, communicated by contagion and infection, either from coming in contact with persons affected, or things which had absorbed the febrile poison; receiving the breath of a patient labouring under that malady; or passing them, if the effluvia were blown upon them, within a given distance—from six to ten feet. Dr. Currie divides this disease into three stages: 1st, when the *inflammatory*, 2d, the *bilious*, and, 3d, when the *putrescent* symptoms take place. The favourable and unfavourable symptoms in each he concisely describes. *In the first*, if hæmorrhages from the nose, with relief of the head during the exacerbations, came on; if, there were a gradual reduction of the pulse, heat, and oppression, at the præcordia, a diarrhœa, or loose stools mixed with bile, appeared before the third day, these he observed as *favourable signs*. The *unfavourable* were, a strong, hard, and quick pulse, with furious delirium, and pervigilium; a quick, slow, and irregular pulse, with low delirium; great muscular debility, exquisite pain at the stomach, oppression, and sense of stricture at the præcordia, great thirst, constant nausea, retching, and restlessness, obstinate



stinate costiveness, and the stools of a whitish colour. A want of action in the bowels, great insensibility to purges and clysters, also gave room for much apprehension. In the *second stage*, an abatement of vomiting, anxiety, and oppression at the præcordia; relief from the burning pain at the stomach, natural heat in the forehead and limbs; open bowels, natural-coloured stools, and turbid urine, were *favourable signs*. The *unfavourable* were, an increase of muscular debility, oppression, anxiety, incessant vomiting, a rapid increase of an icteritious aspect; restlessness, frequent sighing, costiveness, and bloody stools, accompanied with a painful tenesmus; hollow eyes, shrunk countenance, shrill voice, obstinate pervigilium, but, *above all*, an invincible irritability of the stomach, which occasioned a rejection of any kind of drink, aliment, or medicine; and a gradual recession of heat from the surface of the body. In the *third and last stage*, a return of heat to the surface of the body, cessation of delirium, and a change of colour in the matter discharged by vomiting, were *favourable symptoms*. The *unfavourable* were such as chiefly denoted a speedy dissolution; such as sudden cessation of pain and fever, coldness of the face and limbs, black vomiting, black stools, constant singultus, coma, hæmorrhage, a sense of great weight and stricture about the epigastric region, deep and frequent sighing, and a great failure of strength. With regard to the cure, a variety of medicines were tried; but most of them appeared not to be successful. Vomiting and purging, at the onset, were advantageously employed; but that only to be depended upon was calomel, given at proper intervals, to raise a salivation; which operation, according to the accounts stated, saved many from the fatal consequences of this disease. See DOCTORS CHISHOLM, RUSH, and CURRIE, on the *malignant pestilential, bilious remittent yellow*, and the *yellow Fever* of the West India Islands and Philadelphia."

The article *Puerperalis Febris* is executed in a very clear, accurate, and judicious manner; but our limits will not allow us to give it to our readers.

Another addition to the present work is the article *Quarantine*, which is introduced principally with a view of giving the opinions of Noah Webster on the non-contagious nature of the yellow fever.

(To be concluded in the next Number.)



ART. II. *Experiments upon the Circulation of the Blood, throughout the vascular System: on languid Circulation: on the Motion of the Blood, independent of the Action of the Heart: and on the Pulsations of the Arteries.* By the Abbé SPALLANZANI. With Notes, and a Sketch of the literary Life of the Author; by J. TOURDES, M.D. of the University of Montpellier, and one of the Physicians to the French Army in Italy, &c. &c. Translated into English, and illustrated with additional Notes; by R. HALL, M.D. &c. Octavo. 424 pages. RIDGWAY, London. 1801. Price 9s. boards.

THE reputation which Spallanzani has deservedly obtained in the various branches of natural history, is adduced by the translator as a sufficient reason for presenting this work to the public in an English dress. As the author, however, published observations on the circulation of the blood several years ago, which in the results afforded by them differed very little from the present production, we must naturally expect that the interest of this work is now much diminished, both from many of the opinions contained in it having been refuted by later and more accurate observations, and from the more important having long been sufficiently known by those who have made the phenomena of the circulation their particular study.

It would be foreign to the object of our Review to go much into detail in the analysis of the literary life of Spallanzani prefixed to this work; it may be sufficient to give a very general abstract. This celebrated philosopher was born at Scandiano in the year 1729; he early discovered proofs of ability, and was much noticed by the Jesuits his tutors, who would have gladly received him into their order: he declined their offers, and went from thence to prosecute his studies at Bologna, where he remained some time. His father intended him for his own profession, the law, but he was soon disgusted with it, and relinquished it for physics and mathematics, which he pursued with much industry for three years. At the age of 26, he was chosen professor of Belles Lettres at Reggio, and in the year 1761 published an excellent Critique on Salvani's translation of Homer. In the year 1762, he accepted an advantageous offer to go to the university of Modena, and in 1770, went to Pavia, as Professor of Natural History, where he appeared on one of his most conspicuous stages.



In 1762, he published some observations on the origin of fountains, and in 1766, a dissertation on the rebounding of stones, thrown obliquely on the surface of water, which he ascribes to a necessary change in its line of direction, produced by the cavity which it forms on touching the water.

In 1768, he published a work on the reproduction of various parts of animals, and also a small one on the action of the heart and blood-vessels, which, in 1777, was followed by one more extensive, of which M. Tourde gives a general account. In 1768, he likewise published a plan for a series of experiments on the generation of mules in the class of insects. In 1769, he published a translation, with notes, of a work of Bonnet, the Genevese naturalist, entitled, *Contemplations on Nature, &c.*; in 1776, a Dissertation on the Animality of the Corpuscles discovered in various fluids by the Microscope. Soon after, he published his Experiments on Digestion, and artificial Impregnation.

He superintended the museum at Pavia, which he enriched by various valuable additions, collected principally during his travels from 1780 to 1786, in Switzerland, various parts of Italy, Germany, and Turkey. He was eleven months in Constantinople, and the public are promised a speedy account of his observations on that tour. In the year 1788, he went upon an excursion to the two Sicilies, and published an account of it in 1792. He soon after wrote observations on various parts of the physiology of the Rat; and in the year 1796, a refutation of some chemical experiments of Godling. He became very fond of the new chemistry, though he knew little of the old, and was, for some years before his death, occupied in experiments on respiration, an account of which will soon be given by Penturi, in whose hands the manuscript was put. He died on the 12th of February 1798.

In the principal part of the experiments on the circulation of the blood which are detailed in the work before us, the author made use of the water salamander, which he preferred to any other animal, from the transparency of its vessels, their accommodating flexibility, and the purple colour of the blood displaying so clearly the phenomena of that important function. He considered it, however, necessary to employ other animals, such as frogs, grey and green lizards, &c. in order to form his conclusions on a "comprehensive induction." In laying before us the result of his investigations, he occupies his first and second dissertations with "the phenomena of the circula-



tion throughout the vascular system," and "the third with the phenomena of languid circulation, and the motion of the blood, independent of the action of the heart, and the pulsation of the arteries."

In his experiments, which are mostly microscopic, he employed the anatomical instrument of Lyonet, (of which there is a plate,) which is an improvement upon that of Lewenhoeck. He long doubted whether the reasoning founded upon phenomena observed in the circulation of cold blooded animals, would apply to the warm; but at last, in May 1771, he observed distinctly by the microscope, in an incubated egg, the circulation of the blood in the arteries and veins.

We cannot, from the reason stated above, expect much novelty of information in this work; we shall, however, proceed to fulfil our duty to our readers, by giving them a sketch of the results from the laborious researches of this eminent philosopher.

The first dissertation consists of one hundred and sixty-six experiments, the results of which are given in the second, in twenty-eight separate articles, by way of analysis. We shall give a short view of the principal ones.

The author considers it as proved, that in the greater number of animals, "the heart is shortened during the systole, and lengthened in the diastole;" and "that the pericardium in a healthy state always contains a greater or less quantity of lymph."

In grey and green lizards the heart seemed to him, as was the case in the experiments of Haller, to be emptied by every contraction; but in salamanders and green frogs, it was not completely so. The aorta, except in the salamander, was always full, both during the systole and diastole; and in this animal, it always contained a small quantity of blood, unless previously enfeebled.

The velocity of the circulation was different, in different parts of the same animal; in the aorta of salamanders the circulation "stopped upon every diastole, and reduced its motion in the following systole;" near the extremities, "the momentum was greatest during the contraction of the heart," and no inequality of motion was observed "in the pulmonary, mesenteric, and other middle-sized arteries." Different periodical changes were noticed in the circulation of the chick and tadpole, proceeding from the "action of the heart, which increasing every day in size and activity, communicated to the blood a greater and more rapid impulse."

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The pulsations of arteries, though apparently synchronous, occur “in succession, beginning in that portion of the artery nearest the heart, from its having first received the impulse communicated by this organ to the blood, and afterwards proceeding to the anterior and more distant parts.”

The greater diameter of the whole of the branches of an artery, than the trunks, must necessarily diminish the velocity of the circulating fluid, and this, the author found, was the case; but “I did not find,” says he, “that the blood, in passing out of the middle-sized arteries into their branches, experienced the least retardation from any difference in the capacity of these vessels; or the numerous angles which they formed with one another; neither did the mode of the circulation, whether languid or strong, oscillatory or intermittent, appear to be at all affected by the multiplicity of natural and artificial curvatures, or the flexures and convolutions made by the different ramifications. When the strength of the animal was not impaired, the blood in the small arteries moved very rapidly and with nearly an equal velocity; but when, on the contrary, it had been exhausted, or in an unhealthy state, the circulation was carried on with the same celerity in the middle-sized arteries, whilst it began to abate in the small arterial ramifications, and stopped sooner or later in proportion to their distance from the heart. Besides, we ought to take into account that the small arteries which are distributed to the moist surfaces of the internal parts, retain longer their original motion.”

The motion of the globules never appeared to the author in any degree rotatory, but in the way of small pieces of wood, swimming in a canal, with a rapidity equal to the current; and the heart seemed to him to possess a direct action upon the smaller, as well as the larger arteries, and even upon the veins, the contents of which he found were redoubled in velocity during the systole, and abated during the diastole of the heart in salamanders, land frogs, the chick in ovo, and the tadpole; not only in one or two, but in a very great number of small veins, whether the circulation be carried on in a very rapid or languid manner.

The union of the arterial and venous branches was effected in different ways. Sometimes an artery reflected become a vein; sometimes the artery went into a complicated net-work, from which proceeded veins; and sometimes several arteries terminated in a single vein. “The velocity of the blood was for the most part equal in the termination of the arteries, and



the orifices of the nascent veins," and while some arteries at their termination could admit "four or five red globules, others only received one at a time."

The results of his experiments agree with those of Haller in this, that "excepting at their points of junction with the arteries, in all the veins, whether small, middle-sized, or large, the circulation was more rapid in proportion as the vessels augmented in diameter, and received the blood from a greater number of branches."

"We can only attribute," he observes, "this accelerated momentum of the blood in flowing from the small to the middle-sized, and from the middle-sized to the large veins, to the progressive diminution of their capacities, from the extremities to the heart." Two facts, in particular, confirmed him in this opinion. "1. If these vessels were naturally, or by accident, of an unequal capacity; that is, less capacious in one portion than another, the blood redoubled its velocity, upon circulating through this strait portion; but no sooner had it emerged, than it recovered its usual momentum. 2. The circulation was carried on with the same celerity in the veins, which, passing through a certain space without receiving any branches, were of a cylindrical form, and consequently of an equal diameter."

In all his experiments, the blood circulated three times slower in the small, than the large veins, and was never retarded, as Haller asserts, in the capillary ramifications, but anastomosed at different angles with the venous trunks. He agrees with Haller in thinking that the effects of the heart extend to the venous system, but carries his idea still further, by supposing a "complete inertia" in the coats of the capillary branches of veins, and a retardation, rather than an augmentation of velocity in the circulation through them. He is even of opinion, "that the course of the blood is independent of the contraction of the arteries, since in several animals it was only evident in the largest trunks, and as in embryos, wherein the circulation is apparent, we perceived no appearance of contraction or dilatation throughout the vascular system." The discordance of those ideas with the improved knowledge of the present time, renders it unnecessary to say any thing in refutation of what the author has now brought forward.

The veins and arteries, considered in their whole extent, were of a conical form; but the branches, taken singly, had a cylindrical figure: some of them, however, were throughout of an equal capacity; and the veins, in general, were of a capacity



capacity larger than the accompanying arteries, and much more numerous. The venous blood always seemed to the author to "circulate with the same quickness as the arterial fluid in the small and large vessels, such as the mesenteric, the pulmonary, the axillary, &c." contrary to Haller's ideas.

Such was the influence of atmospheric air upon the pulmonary vessels, that it arrested or diminished their momentum, whilst this viscus was rendered, either naturally or artificially, empty. When an entire depletion of bile occurred, the circulation likewise ceased in the vessels of the gall-bladder. His experiments did not lead to a certain conclusion, whether the lungs increased or not the momentum of the blood.

The blood invariably circulated with greater velocity towards the axis than round the sides of vessels, and no difference was observed in the density, colour, or disposition to coagulate, of arteries and veins of a similar magnitude. The similarity, in colour, of arterial and venous blood of vessels of the same capacity, however it may apply in salamanders, on whom the experiments supporting this idea were made, is certainly in direct opposition to the phenomena observed in warm-blooded animals, in whom the difference of colour between arterial and venous blood, is at all times very apparent, except in very small and remote vessels.

"It is a generally received opinion, that the blood which is at first yellow, assumes a brownish colour, which is afterwards changed into a florid purple, in proportion as the animal advances in age.

"It is likewise believed, that the blood inclines more or less towards yellow, as its quantity is diminished, or as it is arrested or retarded in its course, either from want of food, or in consequence of a hemorrhage."

The author, however, concludes from experiments, "that red is the original colour of the blood; that in proportion to the growth of the animal, and the strength and evolution of the vascular system, this colour becomes more vivid, and afterwards acquires that purple shade by which it is distinguished in a state of health. That the want of nourishment, by diminishing the vital energy, and consequently that of the heart, and sanguiferous system, enfeebles the different degrees of this colour, until it is almost entirely effaced. In short, that those white, shining, and yellow tints, &c. are the effect of an optical illusion, or some other cause."

It is somewhat singular that the author, in the present state of physiological knowledge, should not be inclined completely



to admit the existence of the lymphatics as a separate order of vessels possessing a very important function in the animal economy. We shall give his own words on the subject. "It farther results from the details in which we have been engaged, that several celebrated anatomists have been erroneously led to admit the existence of serous, lymphatic vessels, wherein circulate yellow, or colourless globules. The truth is, that these appearances proceed from the employment of refracted light, and that these supposed lymphatics make a part of the sanguiferous system; since the same globules appear when viewed by refracted light, yellowish, or of a shining white, in the small branches, and of a reddish colour in the large vessels; upon the adoption, however, of reflected light, those different gradations of colours change into a red, and florid purple. I pretend not wholly to deny the existence of the lymphatics, for although they are concealed from the sight, I believe that, independently of the sanguiferous system, the animal machine is provided with minute canals, which contain only a serous, or mucous fluid: all I contend for is, that those which have been arranged in the class of lymphatics, belong to a different order of vessels."

On a subject now so familiar to every anatomist, as the existence and nature of lymphatics, it is unnecessary to offer any facts, or reasoning, in opposition to these opinions. The Editor M. Tourdes, in a note, seems unwilling to admit that Spallanzani denied the existence of lymphatics; it must be allowed, however, that the very indecisive way in which he gives his opinion, seems to imply, that there was not a little tincture of prejudice in favour of the old and now exploded ideas, on the nature of this set of vessels.

The author conceives "that an invisible fluid circulates in the venous and arterial system, which serves as a vehicle to the red globules, and may be ascertained, either from the motion, which they exhibit in the capillary veins, and even upon the surface of the mesentery itself, without coming into actual contact with each other, and without experiencing the least impression, from the vascular membranes; or by their passing spontaneously from a state of inaction, independent of any reciprocal collision; and these effects, which are evident at an early period after the exclusion of the tadpole, &c. indubitably prove, that this fluid has then an existence, since it is necessary, not only to maintain, but to communicate the first impulsion to the circulation." On the justness of this idea, it is difficult to form an opinion, without having actually made, and varied the  
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the experiments which support it. It seems probable, however, that if the serum in which the globules swam were perfectly transparent and colourless, we should not be sensible that any fluid was interposed between the globules, and therefore might be inclined to imagine, that there was an invisible and unknown gas, in which they were contained.

M. Tourde is of opinion, that the experiments of Spallanzani render the existence of this elastic invisible gas very probable; he refers, however, to the additional facts stated by him in one of his notes, for the complete establishment of it. But on turning to this note we were surprised to find, that he brings forward no additional facts or observations on the subject; but simply refers to the “ingenious inquiries of Michell Rosa,” published in two volumes at Naples, in the year 1788, under the title of *Physiological Letters*, &c. We mention this circumstance, because it seems to shew that M. Tourde speaks too decidedly on a subject which he has not himself examined. If there is so great a facility, as he says there is, in collecting and analyzing this gas, it is very singular that he did not institute one experiment to strengthen the fact of its existence, which we must confess to us appears rather problematical.

The globules were found to be nearly spherical; to be elastic; and of the same form and size in young as full grown animals. At the commencement of existence the author found a much greater number of red globules in warm than cold-blooded animals, but at a more advanced period this disproportion ceased, and in the tadpole and salamander, when considerably increased in growth, there was as large a quantity as in the chick.

The subject of the third dissertation is *On the Phenomena of languid Circulation and the Motion of the Blood, independent of the Action of the Heart, and the Pulsation of the Arteries*; and the inferences he deduces are supported by one hundred and sixty-one experiments.

The author considers Haller's account of the phenomena of languid circulation, as not perfectly accurate, and gives the following appearances from his own observation. “With the exception of a small degree of oscillation in the arteries, the other phenomena observed a constant and regular order; the arterial blood, which at first had an uniform course, lost more or less quickly its equilibrium, and abated in velocity at each diastole of the heart: to this abatement soon succeeded a complete stagnation, except during the systole, when the blood preserved some remains of motion, which, however, disap-  
peared



peared by degrees. Thus the circulation ceased in the arteries, by a successive and gradual diminution of momentum, without any flux or reflux, intermittent or vibratory motion.

“ The motion of the blood in the veins ceased in the same gradual manner; and these different phenomena were alike evident in the arterial and venous fluid of cold and warm-blooded animals, not only immediately after exclusion, but at a more advanced period of their lives, either when the mesentery was slightly displayed or allowed to remain in its natural position, either when the animal was placed under the exhausted receiver of an air pump and perished by degrees or by a violent death. The circulation ceased always first in those vessels most distant from the heart. Sometimes, after the death of the animal, the vessels preserved only a small quantity of blood, but usually they remained more or less full of this fluid.”

The blood of all animals is endowed with the principle of gravity; it is heavier than lymph or water, and whatever be the position of the organs in a dead body, it accumulates by its own weight in the most dependent parts. “ The weight of the blood in a living salamander considerably exceeded fountain water: this fluid, whether venous or arterial, poured drop by drop upon its surface, was precipitated to the bottom with greater rapidity than when previously coagulated.” For the proportion of rapidity, he refers to the nineteenth and twentieth experiments; but from them it would appear, that the deduction is not accurate; for in the twentieth he says, “ the venous and arterial blood, which had coagulated before touching the surface of the water, was precipitated to the bottom of the vessel, with greater rapidity than in the last experiment,” the nineteenth, in which blood was received by drops from the aorta and vena cava of a living salamander before coagulation into pump water, and was precipitated in the form of a reddish pellicle, which, on examination by the microscope, was found to be “ a mass of sanguineous globules.”

“ The effects of gravity in animals deprived of life, were in an inverse ratio of the smallness of the vessels, that is, more considerable in the large, less evident in the middle-sized, and almost imperceptible in the small capillaries. When the action of gravity was exercised in conformity with the natural course of the blood, it augmented the velocity of this fluid in the middle-sized vessels; but, if its force was exerted in an opposite direction, the circulation abated, became retrograde, or altogether ceased in proportion to its power.

“ It



“ It was only when the blood flowed in the middle-sized vessels with very great rapidity, that the circulation continued independent of the power of gravity.” The weight of the blood depends, he thinks, upon the red globules.

“ When a vein was opened, the blood which it contained, that of the neighbouring branches, and of the inter-communicating arteries, redoubled in velocity, and escaped through the opening:” sometimes there was only one current, and sometimes a stagnation above and below the orifice. The same circumstance was observed in the division of an artery. Animals experienced convulsions on puncturing or destroying the brain, but as soon as the nervous commotion ceased, recovered their circulation, though they remained stupid and debilitated, were deprived of sensibility and irritability, and died in four or five days. Those deprived of the heart, could perform the same actions as in health, but they generally died on the first or second day.

The author concludes his work by some observations on Haller’s idea, that the determination of the blood to a punctured vessel is owing to a contraction in the minute vessels operating only after a wound, and by attempting to refute the opinion of Lamure, that “ the supposed pulsation of the arteries is an appearance which should be attributed to the action of the heart, elevating them during its contraction.”

The translation seems to have been executed with care, but the translator’s notes add little to the value of the work, as they are chiefly directed to invalidate conclusions which few, acquainted with the present state of physiological knowledge, will attempt to support.

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ART. III. *WILSON’S Treatise on febrile Diseases, Vol. III.*

(Continued from page 392 of vol. vii.)

**I**N our Number for December we presented our readers with the introduction to this volume, which comprized a very ingenious and interesting doctrine of inflammation lately brought forward; we now proceed to give them an account of the symptoms and treatment of the phlegmasiæ.

“ The only mark of distinction,” according to the author, “ which can be given between simple inflammation and the phlegmasiæ is the presence of fever in the latter.” In the true phlegmasiæ,



phlegmasiæ, the fever and local affection, especially if the latter is internal, appear together. "It is impossible to say which appears first, and it is evident, that if any degree of the local affection produces a corresponding degree of fever, the one cannot appear unattended by the other."

But fever is not necessarily attended with the inflammations which appear in the phlegmasiæ; if such inflammations are, however, universally attended with fever, "the degree and state of the inflammation regulating those of the febrile symptoms," it appears to the author that "in the phlegmasiæ (and the same mode of reasoning applies to the symptomatic fevers) the local affection is the primary complaint;" and it either appears before the febrile symptoms, or at the same time with them.

The local affection of the phlegmasiæ may be divided into that in which the redness and swelling are diffused, and that in which they are circumscribed. Simple inflammations and the phlegmasiæ are in general sufficiently distinguished from each other; but there are some external inflammations which may be regarded as forming the link of connexion between simple inflammations and the phlegmasiæ. Thus a small boil is unattended by fever, but if it be increased by local irritation, for example, it then occasions fever, farther proving the fever in the phlegmasiæ to be the consequence of the inflammation. In the phlegmasiæ it may be observed, "that the nearer the seat of inflammation is to the brain or stomach, the more considerable the fever and the greater is the danger;" and that the more external the inflammation is, the more nearly does it approach to the nature of simple inflammation. The following is the author's definition of the phlegmasiæ: "Febris symptomatica, dolore topico, simul læsa partis internæ functione;" and no farther account of these symptoms he thinks need be given, "for wherever there is fixed pain, derangement of some internal function, and fever, we have reason to believe that local inflammation is present, which is placed beyond a doubt if the pulse be hard."

"The difference between a strong and a hard pulse seems to arise from the artery in the latter case never being wholly relaxed, while in the strong pulse, however powerful the contraction may be during the systole, we have reason to believe that there is a complete relaxation during the diastole, so that the vessel forcibly embraces its contents only for an instant, and therefore feels soft."

"In



“ In the case of the hard pulse, the end being to propel the blood into the debilitated vessels of the inflamed part, the arteries in the neighbourhood of these vessels forcibly embrace their contents, although in a less degree, during the diastole, seemingly to prevent any degree of regurgitation, and at length the whole arterious system is affected in the same way, so that, however debilitated the circulation becomes, while the inflammation lasts, the hardness of the pulse is still remarkable, and by this means, we shall find, we may often detect the presence of inflammation when there is no other symptom to guide us.”

In general we can discover the presence of inflammation by the seat of the pain, and by the function affected ; and though in some inflammations, distant parts are affected by sympathy, yet we can generally infer from the symptoms which is the diseased part, “ on account of the pain and lesion of function being always the same, or similar when the same part is affected,” and from the same combination of symptoms occurring in no other affection.

“ The local symptoms indicating the resolution of internal inflammation, are the gradual abatement of the pain, and the restoration of the function of the inflamed part.

“ When suppuration takes place, the pain, for the most part, also abates. It is sometimes kept up by the distention which the collection of pus occasions ; as in external inflammations, the throbbing often becomes more remarkable during suppuration, or supervenes where it had not previously been perceived. The patient also feels a sense of weight where the collection of matter is considerable, and if the part is not very deeply seated, some degree of fluctuation may be perceived through the integuments.

“ The only local symptom which indicates the terminations of internal inflammation by gangrene, is the abatement or total ceasing of the pain.”

“ But in ascertaining the tendency of internal inflammations, as well as the manner in which they are actually terminating, we trust more to the general than the local symptoms.”

When the fever is moderate, we may expect resolution ; when violent, suppuration, which is indicated by the pulse becoming less hard and fuller, and by the occurrence of chills ; in gangrene, the pulse becomes feeble, frequent, and irregular, and the debility extreme, with generally an almost total cessation of pain.

The characteristic difference which the author lays down, between the *treatment* of the fevers which he terms idiopathic,



and the phlegmasiæ, is, “that in the latter we employ antiphlogistic means more liberally, and the stimulating plan more sparingly.” We must not, however, he observes, employ the antiphlogistic means in this phlegmasiæ unguardedly, as we may induce debility, and thus a chronic complaint, or gangrene, the accession of which latter is somewhat similar to that of typhus in simple fever.

“In idiopathic fevers we almost always proportion the evacuations to the degree of general excitement; in the phlegmasiæ we, *cet. paribus*, proportion the evacuations to the violence of the local affection, and we attend to the nature and degree of the febrile symptoms chiefly with a view to ascertain the state of that affection, and, as in some phlegmasiæ, the greater the general depression and debility the more violent is the inflammation, we sometimes push antiphlogistic measures as far as can be done with safety, on account of the very symptoms, which, in idiopathic fevers, render the tonic plan indispensable. In some of the phlegmasiæ, we shall find that a weak and even irregular pulse indicates the necessity of liberal evacuations.

“Such a state of depression, however, is to be carefully distinguished from debility, properly so called. Dr. Fordyce is almost the only writer who makes this distinction with much accuracy; yet there is none in the practice of medicine of more importance. The former is that species of debility which is occasioned by a sudden exertion, the latter, that occasioned by one more moderate but long continued; the one is permanent, the other transitory. A depression of strength even to syncope may arise from the morbid contents of the stomach, and on the removal of these may cease in the space of half an hour. But debility, properly so called, is that which succeeds profuse evacuations, or diseases of long continuance.”

The author next proceeds to give us the treatment of the phlegmasiæ with a view to procure resolution. This termination we effect,

“1. By removing the remote causes if they still continue to act.

“2. By diminishing the congestion in the inflamed part.

“3. By diminishing the *vis a tergo*.”

For the removal of the remote causes, if they happen still to be applied, it is only necessary to be acquainted with them. The means of relieving the congestion in inflamed parts, the author divides into two sets: those which excite “the debilitated



tated vessels, to expel part of their contents; and those which directly remove part of these contents."

The first are various well-known metallic preparations, neutral salts, &c. substances derived from the vegetable kingdom, such as vinegar, spirits, opium, essential oils, &c. also the application of cold.

The second are either such as relieve the distended vessels by debilitating those of some neighbouring part, in consequence of which, a congestion being formed there, that of the inflamed part is relieved, as by rubefacients, or such as at once draw off a considerable portion of the blood distending the vessels of an inflamed part. "When either the excitement or the hardness of the pulse is considerable, the more stimulating of the foregoing means, blisters and rubefacients, are exceptionable, as might a priori have been supposed, since they occasion inflammation, which, in the phlegmasiæ, we have seen, is the cause both of the increased excitement and hard pulse. Wherever these symptoms are considerable, therefore, they are to be moderated by evacuations, before we have recourse to such means." Local blood-letting by leeches, or cupping, is best adapted for the purpose of removing a part of the contents of inflamed vessels.

The most powerful means for diminishing the vis a tergo, are general blood-letting from a vessel as near as possible the part affected, and from a pretty large orifice. The state of the excitement in general determines the propriety of blood-letting, except in inflammations of the stomach and intestines, where there is often a small and weak pulse, and yet the utmost occasion for this remedy. "With respect to the quantity of blood taken at each blood-letting, in an adult of ordinary vigour labouring under visceral inflammation, fourteen ounces is a moderate general blood-letting; a moderate local blood-letting is from four to six ounces: and both the one or the other will be the more effectual the earlier they are employed, and the more quickly the blood is taken." When a second blood-letting has been thought necessary, and has not relieved the inflammatory symptoms, we must immediately have recourse to leeches and the cupping-glass; and as soon as the vis a tergo is pretty well reduced, we should apply a blister near the affected part, but so as to leave a space for the application of leeches or the cupping-glass, if again thought necessary; for the author with justice observes, that though a large blister applied at a small distance from the inflamed part, will have the same effect with a smaller applied nearer it, yet this



is not the case with local blood-letting. Our aim in blood-letting, is to diminish the hardness of the pulse and lessen the excitement; when the latter is effected without the former, the prognosis is very bad, for “while it indicates the necessity of evacuations to effect a cure, it informs us that the patient can no longer bear them.”

In the phlegmasiæ it is always proper to keep the bowels soluble, but, except in complaints of the head, it is seldom necessary to place much dependance on the use of cathartics; in them, however, a cathartic is the first means we should employ.

Emetics and diaphoretics are only admissible in a few cases of phlegmasiæ.

When suppuration is expected, we must be more sparing in the use of antiphlogistics; much excitement is unfavourable to suppuration, as well as too little; we must, therefore, pursue a middle course, by moderating the excitement when too violent, and increasing it when languid; this is also what is to be kept in view in the prevention of gangrene: when that has actually occurred, the dead parts can only be removed from the living by suppuration, and “it is only then, when gangrene is seated on, or near the surface, that we can attempt the cure with any hopes of success.” Nourishing diet, and the liberal use of bark and wine, are the most proper internal means of cure; warmth by means of poultices, the best external; except in gangrene from cold; in which case we must gradually, only, apply warm. Sometimes the gangrene occurs at the time of the excitement being violent, in which case we must wait till that is reduced, which will soon be the case, before we can adopt the plan recommended.

The author, having finished his general observations on the phlegmasiæ, now proceeds to the examination of the different orders, and begins with the PHLEGMON. In this there is nothing particularly worthy of attention, except that the author objects to Dr. Cullen’s making it a species of the genus phlogosis, in which pyrexia is a necessary symptom, though phlegmon, the species, is generally unaccompanied with it. He also considers it as improper to have omitted the symptom of *swelling* in the definition of phlogosis, when it always accompanied phlegmon.

ERYSIPELAS. Dr. Cullen places in his class of exanthemata, and considers as the *phlogosis erythema* with a peculiar fever attending it. This, the author is of opinion, is a compound complaint, and though he was led to give it considerable attention,



attention in his second volume, yet he thinks it more natural to consider the local affection as the peculiar disease. "The simple diffuse inflammation of the skin," says he, "I have termed erythema; the phlegmasia, the diffuse inflammation of the skin occasioning fevers, I have termed erysipelas; and with respect to the combination of erysipelas and simple fever, there is no more reason for giving it a name, than for giving a name to any other combination of two complaints."

The *phlogosis erythema* of Cullen is, therefore, the complaint which the author considers under the name of *erysipelas*; he adopts the following definition of it given by that author in his nosology: "phlegmasia rubore externo, pressione evanescente; ambitu inæquali, serpente; tumore vix evidente, in cuticulæ squamulas, in phlyctænas vel vesiculas abeunte; dolore urente\*."

As a full account is given of the symptoms and causes of this complaint in the second volume of the Treatise on febrile Diseases, he thinks it unnecessary to repeat them, and only observes, "that the erysipelas bears the same resemblance to the simple inflammation termed erythema, which the phlegmon does to that termed pustule. The only difference in both cases being, that in the phlegmasia the inflammation is generally of greater extent, its symptoms run higher, and it is attended with fever. The chief seat of the erysipelas and erythema is the outer surface of the true skin and the corpus mucosum, but the former often spreads through the skin and affects the cellular substance beneath it."

The peculiarities of the *treatment* of erysipelas from that of inflammation in general, depend upon its being external. "It was observed of the phlegmasiæ in general, that the symptoms are more moderate, the prognosis better, and consequently the means required less vigorous, the more external the seat of the inflammation. On this account, in most cases of erysipelas, we do not find it necessary to have recourse to very vigorous antiphlogistic measures; a cooling diet, an emetic at the commencement, and gentle saline laxatives, repeated so as to support a moderate catharsis, are generally sufficient, especially if the inflammation is confined to the extremities.

"When the fever is considerable, diaphoretics, particularly antimonials, should be exhibited. In this case the best plan appears to be, after the operation of a gentle emetic, to give

\* "This definition does not include all the varieties enumerated by Dr. Cullen, some of which are merely local diseases."



one or two brisk saline cathartics according to the urgency of the symptoms, and then support a moderate catharsis by antimonials.

“ If the antimonials occasion sweating, they may fail to move the bowels. In this case we must be cautious not to check the sweating, (a frequent crisis in erysipelas) which might be done by attempting to induce catharsis. While the sweating continues, therefore, the alvine discharge should be solicited only by emollient clysters repeated once, or at most twice, in the day.

“ The propriety of attempting the cure of erysipelas rather by catharsis than by blood-letting farther appears from the evident connexion between erysipelas and the state of the primæ viæ, which was considered at length when speaking of the symptoms and causes of this complaint. Irritation of the stomach and bowels, we found, not only increases all the symptoms, but seems very frequently to be the exciting cause of erysipelas, so that a cathartic will often have a greater effect in removing it than any loss of blood which the patient can sustain.” If, however, “ the first or second cathartic fail, a moderate venesection will have a much better effect than the continued repetition of powerful cathartics.

“ As our view in erysipelas always is to procure resolution, erysipelas having little tendency to suppuration except when it spreads deep, and suppuration, when it does occur in this complaint, being generally unfavourable, antiphlogistic measures should be carried farther than in the phlegmon;” but the author recommends us always to bear in mind the tendency of erysipelas to gangrene. “ In erysipelas of the face, when neither coma nor delirium attend it, its treatment is the same as in erysipelas of other parts, with these differences, that on account of its tendency to affect the brain, the antiphlogistic means should be more powerful in proportion to the symptoms, and, as the seat of the inflammation is in the head, more is to be expected from catharsis, after the removal of irritating matter from the primæ viæ, than in erysipelas of the trunk and extremities.

“ But when coma or delirium is present, the inflammation of the face is the least important part of the complaint. There is then always reason to believe, that the inflammation has attacked the brain, and experience has pointed out that the treatment in such cases is the same as in phrenitis.”

On the use of opium the author means to give some observations in a future part of his work; at present he remarks,  
that



that though opium gives a temporary increase of excitement, yet as that is much kept up by the pain and irritation of the local affection, opium, by allaying these, might be the means of diminishing it. "At the commencement of the phlegmasiæ, before the mass of blood has been lessened, the same cause will produce a greater increase of the vis a tergo than after the contents of the vessels have been diminished, then the pain and irritation often bearing a greater proportion to the vis a tergo, we may attempt allaying them at the risk of some temporary increase of the vis a tergo.

"If we examine the result of experience in this part of the treatment, we shall find it coinciding with these observations. At the commencement of the phlegmasiæ, before evacuations have been made, opium is found hurtful; but after we have reduced the vis a tergo, if the pain and irritation still remain considerable, it is generally attended with advantage to allay them by anodynes cautiously administered. I have repeatedly known them employed in this way with advantage, and, from what I have observed, I cannot help warmly dissenting from those who would strike opiates from the catalogue of medicines in the phlegmasiæ, or only employ them to procure sleep after almost every symptom has disappeared. It would appear, I think, that the use of opium may with much advantage be greatly extended in the practice both of medicine and surgery.

"It is also to be observed, that the temporary increase of vis a tergo occasioned by opium will be the less injurious in the phlegmasiæ, the less important the seat of the inflammation, and the less suppuration and gangrene are to be dreaded. Hence we may employ opium earlier in external than internal inflammations. We often see a complaint so trifling as a suppuration in the finger occasion sleepless nights and a considerable degree of fever; both of which may be prevented by a moderate dose of opium.

"In erysipelas of the face, even without coma or delirium, from the tendency of this form of the disease to affect the brain, opium is a more doubtful remedy. For its exhibition in cases attended with coma or delirium I may refer to what is about to be said of inflammation of the brain."

Of the local applications there is much difference of opinion. Cullen recommends the application of dry mealy powder, which the author also approves; but we think goes too far, when he states it to be the application of most British practitioners. Quarin and Vogel recommend mild vegetable decoctions,



tions, particularly that of elder flowers in milk; Burserius\* decoctions of marsh mallows.

In the malignant erysipelas the same plan of treatment is applicable as in those idiopathic fevers which are apt suddenly to assume the form of typhus. "Burserius chiefly relies on the bark, Virginian snakeroot, camphire, and the sulphuric acid. To these Quarin adds scordium, and what we may venture to pronounce next to the bark the most valuable of all, wine.

"The erysipelas infantum is a form of the complaint which has not till lately demanded much attention. Hoffman seems to be the earliest writer who describes it. It has since been treated of by several writers, particularly by Dr. Underwood in his Treatise on the Diseases of Children, and by Dr. Bromfield and Dr. Garthshore in the second volume of the Medical Communications.

"The tendency of the erysipelas infantum to gangrene pointed out the bark, and its effects seem fully to have answered expectation. There is no disease, Dr. Garthshore observes, in which the bark is more evidently beneficial. When it cannot be taken in sufficient quantity by the mouth, it must be given in clysters. To this medicine, with the addition of local applications, practitioners seem wholly to have trusted.

"Dr. Bromfield recommends fomentations, spirituous embrocation, and emollient cataplasms. Dr. Garthshore also observes that he has found these applications beneficial. He recommends saturnine ointment and poultices. Saturnine poultices, he observes, generally removed the inflammation without the aid of the bark, but removed in this way from one part, it always attacked another; at length, however, he trusted the cure wholly to the bark, and the common fomentation with a little soap dissolved in it; and thought that saturnine applications were upon the whole, prejudicial." The bowels are at the same time to be attended to.

The author next proceeds to the consideration of PHRENITIS, on which he begins by observing, that "were it not that dissection has ascertained phrenitis to be an inflammation of the brain, there is hardly any thing in the symptoms which would have led the practitioner to distinguish it from an idiopathic fever. I have already had occasion to observe, that phrenitis differs from the other phlegmasiæ. The symptoms denoting the

\* Vid. London Medical Review, vol. v. p. 256.



local affection are such as very frequently attend idiopathic fevers; contrary to what happens in the other phlegmasiæ, it is generally accompanied with coma or delirium, and the excitement often runs as high, as in the most strongly marked synocha." This definition differs from that of Cullen only in the substitution of phlegmasia, for pyrexia vehemens; it is the following: "phlegmasia dolore capitis, rubore faciei et oculorum, lucis et soni intolerantia, pervigilio, delirio feroce vel typhomania." Medical men, the author thinks, have not sufficiently attended to the distinction between inflammation and congestion of the large vessels of the brain, and he is disposed to consider sephalitis and sphacelismus in the latter point of view.

"Phrenitis often makes its attack with a sense of fulness in the head, flushing of the countenance, and redness of the eyes, the pulse being full, but in other respects natural. As these symptoms increase, the patient becomes restless, his sleep is disturbed, or wholly forsakes him." The stomach, bowels, and indeed the whole body, are often very much affected before its attack. The pain of the head becomes violent, and delirium comes on, which increases to phrensy. "The face becomes turgid, the eyes stare, and seem as if starting from their sockets, tears and sometimes even blood, as Saalmon observes\*, flowing from them; the patient in many cases resembling a furious maniac, from whom it is often impossible to distinguish him, except by the shorter duration of his complaint. The eyes are incapable of bearing the light, and false vision, particularly that termed muscæ volitantes †, and flashes of light seeming to dart before the eyes, are frequent symptoms." The pulse is very variable, being in some cases little disturbed, in others full and strong, in others small and hard. The delirium changing to coma, the pulse at the same time becoming weak, and the deglutition difficult, is generally the forerunner of death.

"When there is a copious hemorrhagy from the hemorrhoidal vessels, from the lungs, mouth, or even from the urinary passages, when the delirium is relieved by sleep, and the patient remembers his dreams, when the sweats are free and general, the deafness is diminished or removed, and the febrile

\* Vid. Acta erudit. Lipsiens.

† "It seems to be owing to this deception of the sight that the patient is often observed to pick the bed-clothes. This, however, I have observed, he often does without directing his eyes to the bed-clothes, or indeed particularly to any object."



symptoms become milder, there are hopes of recovery." The longer it is protracted the better the prognosis; when fatal, the patient in general dies in six or seven days.

The *diagnosis* between synocha and phrenitis is extremely difficult, and often impracticable. The following is what the author gives as the sum of the diagnostics. Synocha generally makes its attack in the same manner; its symptoms are few and little varied. The symptoms at the commencement of phrenitis are often more complicated, and differ considerably in different cases.

Derangement of the internal functions is comparatively rare in synocha. In phrenitis it almost constantly attends, and often appears very early. The same observation applies to the derangement of the organs of sense.

In synocha, the pulse from the commencement is frequent, strong, and rapid. In phrenitis, symptoms denoting the local affection often become considerable before the pulse is much disturbed.

"In phrenitis the pulse sometimes very suddenly loses its strength, the worst species of hemorrhagies and other symptoms denoting extreme debility shewing themselves; such symptoms are generally the forerunners of death. But when the termination is favourable, the degree of typhus which succeeds is less in proportion to the preceding excitement than in synocha.

"Lastly, if we succeed in removing the delirium and other symptoms affecting the head, the state of the fever is found to partake of this favourable change more immediately and completely than in synocha, where, although we succeed in relieving the head-ach or delirium, the fever often suffers little abatement."

In fatal cases suppuration has generally taken place, and serum often effused into the ventricles of the brain, which circumstances, compared with the thickened state of the *membranes* and the adhesions, induces the author to think, that there is some analogy between this complaint and hydrocephalus internus, which will, however, be a more particular object of attention with him in a subsequent part of his work.

Idiopathic phrenitis occurs most frequently in the young and sanguine, and in warm climates: it may arise from causes occasioning an accumulation of blood in the head, or from those immediately affecting the brain, as fatigue of body or mind, excessive venery, poisons, and suppressions of habitual evacuations.



In the *treatment* of phrenitis, the most vigorous and speedy antiphlogistic measures are necessary; blood-letting is the principal remedy, and should be performed on the temporal artery, or jugular vein; and if not from them, blood should be taken from the head by local means; catharsis should be induced or encouraged, and after the excitement has been reduced, a blister should be applied to the head, and cold applications, or even ice. The author suggests the employment of alternate, warm, and cold applications, and where the complaint has originated from habitual discharges being stopt, attempts should be made to restore them.

The next chapter is on OPTHALMIA: Dr. Cullen classes this complaint with fevers, but does not mention fever in its definition; indeed there is only one species of it to which the author would annex the term phlogosis, and that is ophthalmitis; the other species he regards as simple inflammation. The following is his definition: phlogosis cum rubore et dolore oculi, lucis intolerantia, cum lacrymatione. Ophthalmia he divides into three species, according as it affects the eye-lids, the membranes which cover the anterior part of the eye, viz. the adnata, or as it has been termed from its colour albuginea, and conjunctiva, or the deep-seated parts of the eye, its muscles, and the lachrymal gland; which last is that to which the term ophthalmitis, as being generally accompanied with fever, can only be applied.

Ophthalmia membranarum sometimes comes on suddenly, in which case it is termed by the vulgar a blast, but for the most part gradually. The first symptom is unusual redness of the conjunctiva, accompanied with the sensation of itching heat, “a pricking or stinging pain;” and often an increased flow of tears: the eye-lids swell, and, in severe cases, the conjunctiva, so as to leave the cornea stuck in a hollow formed by the tumefied coats: the milder forms of the disease are termed *taraxis*; the more severe, particularly when accompanied by the last mentioned symptoms, *chemosis*.

“The swelling of the eye and eye-lids often becomes so considerable that the patient is unable to open the eyes. In this state the complaint has been called phymosis, the name of a similar affection of the penis. The degree of swelling in the worst cases of the ophthalmia membranarum is sometimes astonishing; we find one author relating a case in which the tumor equalled a man’s hand, and another declaring that he has seen the eye so far protruded from the socket, that it rested on the upper lip.



“ In such cases the inflammation not only spreads to every part of the eye and eye-lids, but to the whole side of the face ; the patient complains of violent pains in the forehead and temples, and the cheek becomes swelled and inflamed.”

The intolerance of light is generally proportioned to the degree of inflammation, and although the complaint had at first been confined to one eye, when it arises to this degree, the other always partakes of it. “ Spasms of neighbouring parts, particularly of the eye-lids, often attend ophthalmia. In the more severe cases the whole muscles of the face becomes affected with them.”

Ophthalmia membranarum may terminate, like other inflammations, in resolution, suppuration, or gangrene. Resolution is the only favourable termination, except when the eye-lid partakes much of the inflammation ; in which case the formation of an abscess on it may relieve the symptoms. The effects of suppuration of the eye itself are various. “ During the continuance of the inflammation,” Mr. Ware\* observes, “ small ulcers are often formed on the cornea : which being first caused by it, serve afterwards to increase it, and render the cure more difficult. These ulcers generally heal in a depression, which is a great impediment to the sight, causing objects to appear as if they were seen through crinkled glass.

“ Small abscesses are also sometimes formed between the lamina of the cornea, which, instead of discharging their contents, harden into white opaque specks, and according to their size either partially or totally prevent the entrance of the light.

“ When the thickening of the cornea,” Mr. Noble† observes, “ is towards the centre, and so great as to prevent the passage of the rays of light to the retina, the eye will frequently accommodate itself to its imperfections by turning on one side, that the transparent part of the cornea may be opposed to the object.”

If the specks are superficial, they may wear off in course of time ; but if they penetrate through the whole substance of the cornea, they do not seem to admit of any remedy. Sometimes, according to Mr. Ware, these abscesses burst into the cornea, and the matter, falling to the bottom of the aqueous humour, forms what is called *onyx* ; when it is larger in quantity, it has the name of *hypopion*. Matter may also be formed

\* Mr. Ware's Treatise on Ophthalmia, &c.

† A Treatise on Ophthalmia by Mr. Noble.

in the posterior chamber of the aqueous humour, from whence it may come forward into the lower part of the cornea, or be inspissated, and thus form adhesions, and contract and alter the shape of the pupil, or form a membrane dividing the posterior chamber into two parts. Mr. Noble is of opinion, that the nebula, or cloudy appearance of the eye, is founded by small quantities of pus deposited at the extremities of the vessels, which the author, however, doubts. "If an abscess," Mr. Noble observes, "should be very large and deep seated in the substance of the cornea, and burst internally, such a considerable support is frequently taken away from that part of the cornea, that the remaining portion is no longer able to support the action of the muscles, but gives way, and as when all the muscles act at the same time they press the sides of the eye nearer together and inwards, a part of the iris is protruded through the wound in the cornea, forming a small black spot, which has been compared to the head of a common fly, and is spoken of by authors under the name of myocephalus.

"If the protrusion is small, though the form of the pupil is changed to an oblong, yet still the iris retains its motion, and the sight is little injured: but if large it loses its power of contraction and dilatation, and in some cases the edges, from being inflamed and remaining some time in contact, adhere, and the pupil is obliterated."

When the cornea is rendered so thin, as to be incapable of confining the humours, part of them may be "protruded in the form of a hernia, and become incarcerated," an affection which was termed by the ancients *staphiloma*.

Mortification very seldom occurs in any form of ophthalmia, but least of all in the ophthalmia membranarum. Sometimes the iris is morbidly contracted, so as to refuse admission to the rays of light; sometimes new vessels are formed on the cornea, which render it opake; and sometimes the iris enlarges by projecting fibres, so as either to unite with the opposite edge, or to the capsule of the crystalline lens, and thus prevent vision. In some cases, which Noble relates, there appeared a speck or opake spot on the capsule of the lens, and a small clear ring around this, through which what little sight the patient had must have been obtained.

The ophthalmia tarsi sometimes succeeds to, and when violent, generally brings on that of the membranes. In this complaint "the tarsi are red and swelled, and pour out a glutinous matter which glues the eye-lids together during sleep, and



and both in this way, and by forming small hard masses adhering to the eye-lashes, increases the complaint.

“The patient complains of a constant uneasiness of the eyes, but never of the severe pain which sometimes attends the ophthalmia membranarum. The uneasiness is increased by the falling off of the eye-lashes which defend the eye from strong light, dust, &c.”

Both species, but particularly the ophthalmia tarsi, may become chronic; the latter is also much more disposed to suppuration than the former, and when it is attended with much swelling, “the eye-lids may grow together, in consequence of small suppurations forming on the tarsi, or of the cuticle being abraded by the acrimony of the discharge.”

The most violent species of ophthalmia, that of the deep-seated parts of the eye, or ophthalmitis, still remains to be considered. “The ophthalmitis sometimes,” says the author, “comes on without being preceded by either of the other species of ophthalmia, and it now and then happens that the anterior parts of the eye remain free from inflammation. In many cases however the anterior parts are first affected, and the inflammation spreads gradually to the deep-seated. As soon as the inflammation spreads to the latter, the pain becomes more severe, extending to the temple and over a great part of the head, often particularly felt, St. Yves remarks, on the crown of the head, and increased by the slightest pressure of the eye.

“As the deep-seated parts become affected, the inflammation of the conjunctiva and adnata sometimes abates.

“When the inflammation seizes the lacrymal gland, there is a severe pain referred to its seat, the flow of tears is very great, and some protuberance of the upper eye-lid may often be observed.

“As soon as the retina becomes affected, the sight grows confused, the patient sees every thing covered with black spots, incessant clouds pass before the eyes, or fire seems to dart across them. Deceptions of vision sometimes attend the ophthalmia membranarum when the inflammation has spread to the cornea. As the inflammation of the retina increases, the intolerance of light becomes extreme, and the patient is at length seized with a degree of phrenzy, if the eyes be exposed to it.

“This form of the disease never lasts long without being attended with fever; and when the pain of the eye is very great, it is not uncommon for delirium to supervene.

“With



“ With one or both eyes thus affected, the patient passes sleepless nights, always in severe pain ; in many cases, with intervals of excruciating torture.

“ Resolution is the only favourable termination of ophthalmitis. Suppuration is often attended with a general efflux of all the humours ; and gangrene, while it proves as destructive to the eye, endangers life.

“ When ophthalmia is attended with fever, like other febrile diseases, it has occasionally terminated by critical evacuations, by spontaneous hemorrhagy, sweat, or diarrhœa.”

On the *predisposing causes* of ophthalmia, the author observes, “ that different species of ophthalmia may appear at any age and in any habit. Certain species however are most apt to attack certain constitutions, and to appear at certain periods of life. In the young, robust, and sanguine, the ophthalmia membranarum and ophthalmitis are most common. The ophthalmia tarsi is more apt to attack those of a delicate habit or of an advanced age.

“ The scrophulous ophthalmia, at least, is often hereditary.

“ As happens with respect to all other inflammations, those who have already laboured under ophthalmia are most liable to it.

“ It is more frequent in spring and autumn, than in seasons when the weather is less variable. Among the predisposing causes may be ranked the complaints in which ophthalmia most frequently supervenes. It more frequently accompanies synocha than typhus, and some of the exanthemata more frequently than either ; particularly, measles, small-pox, and scarlatina. It is a frequent concomitant of all inflammatory affections of the head.”

The exciting causes he principally enumerates from Dr. Cullen, to whom we refer our readers on this subject. To those causes, the author adds cold, certain ingesta, worms, disorders of the alimentary canal, derangement of the excretions, &c. He concludes this section with the following very judicious remark, “ One circumstance which greatly varies the exciting causes of most complaints, should always be kept in view. If habit or any other cause has once produced a strong tendency to a disease, almost every thing which deranges the system, and still more whatever affects the seat of the complaint, acts occasionally as an exciting cause, although the same causes may be applied a thousand times to the unpredisposed, without producing a single symptom of the complaint. This observation is particularly applicable to some of the foregoing causes of ophthalmia.”



The author now proceeds to the *treatment* of ophthalmia. The indications of cure which he lays down are the same as in the other phlegmasiæ, and we need not therefore repeat them. On the removal of inverted eye-lids, as a cause of ophthalmia, which pulling out the hairs can palliate, and not remove, he quotes the observations of Mr. Ware, which are well worthy of attention. Mr. W. is of opinion, that the upper eye-lid, and its ciliary edge, are kept in their natural situation by the equal and contrary actions of the muscular orbicularis, and the levator palpebræ superioris; and the lower by the actions of the orbicularis, and of the skin which covers it. Inversion of the upper eye-lid takes place from the relaxation of the levator palpebræ superioris; of the lower, from relaxation of the skin.

In the former cases, he proposes to cauterize the muscle, so as to produce a considerable contraction; in the latter, either to keep the skin in a fold by sticking plaster, to take up a portion of the skin with an instrument which is to hang by it over the cheek, to take out a portion of skin, and keep the edges of the wound together by suture, or, to cut through the tarsus in the middle, or make a slight incision at the outer angle of the eye.

“ If ophthalmia proceed from the presence of irritating matter in the stomach and intestines, this must be removed by emetics and cathartics; if from hypercatharsis, by astringents and anodynes, which both tend to check the hypercatharsis, and allay the irritation which attends it. If from the suppression of the excretion by the skin, or any other, we must endeavour to restore it.

“ We are also to restore the discharge if it arises from the drying up of sores or issues, or the suppression of hemorrhoids; if from the retrocession of eruption, the means of recalling these pointed out in speaking of eruptive fevers must be employed.” Light, heat, and exercise, must be avoided; and care must be taken, when light is excluded, that the heat is not increased. In ophthalmitis, it is necessary to diminish the vis a tergo, by general blood-letting from the jugular vein, and at the same time to give cathartics, diaphoretics, and pursue the antiphlogistic regimen very closely. Local evacuations may be such as increase the secretion of tears, mucus of the nose, saliva, or skin of the head. This last may be done by holding the head, covered with flannel, over steam, and it may be carried even to syncope. The most effectual means, however, are the use of local blood-letting; leeches may be applied to the temples, or cheek, but should not be placed too near the eye. In  
a severe



a severe case, Mr. Ware prefers opening the temporal artery, or even dividing it transversely, which he has known to produce immediate good effects, and without any bad consequence. "Will compression," the author asks, "of the temporal artery relieve the symptoms of ophthalmia?" Mr. Ware does not approve of blood-letting by means of barley-beards, on account of the spiculæ being apt to remain in the eye. When inflamed vessels go to any speck on the cornea, he recommends not dividing them only, but taking away a portion of them. The same may be done with good effect in severe inflammation of the conjunctiva on the inside of the eye-lids, particularly when accompanied with much inflammation of the lids.

"In all the more severe cases of ophthalmia," the author observes, "local and general blood-letting are the remedies on which we chiefly rely." After the first or second blood-letting, however, he recommends a blister to some neighbouring part, as the temples, behind the ears, or between the shoulders. Perpetual blisters, issues, or setons, may also be occasionally necessary.

With regard to the topical applications in ophthalmia various collyria have been used, which may be all of them divided into vegetable and mineral. Opium and the various fermented liquors afford some of the most powerful collyria derived from the vegetable kingdom. Distilled spirits properly diluted, or, what are preferable, some of the astringent wines, which, if strong, must also at first be diluted, are often effectual.

"The addition of opium to the wine however renders it far more powerful. Mr. Ware was the first who proposed, or at least generally employed, this application in ophthalmia, which, from the trials I have made of it, appears to me, particularly in the ophthalmia membranarum, to be one of the best remedies we possess."

Mr. Ware recommends the tinct. Thebaica of the London Dispensatory, of which he drops a single drop into the eye, once or twice a day; much pain is at first produced by it, but it soon goes off. "The heads of poppies boiled in milk have long been employed as a collyrium, and are frequently successful in slight cases.

"Camphor and other essential oils are occasionally employed; the same may be said of the balsams and fetid gums, particularly the gum galbanum. A solution of the extract of the flores sambuci or of camomile flowers, the diluted juice of onions, a decoction of fenugreek seeds, of nutmeg, and many



other gentle acrid fluids, are sometimes used with advantage. All these collyria however are of comparatively little efficacy.

“ Those prepared from the more astringent vegetable substances, oak bark or galls, are sometimes more successful. The gently astringent waters, such as that of roses, form a good vehicle for more active ingredients.

“ Of the collyria derived from the vegetable kingdom, vinegar is among the most powerful. It may be used merely diluted with water, but is generally combined with some metallic preparation, particularly the preparations of lead, the powers of which it seems considerably to increase.

“ When the discharge from the eye is considerable and appears to be acrid, whatever other properties the collyria have, they should be mucilaginous. A little gum arabic may be added to them, or they may be prepared with an infusion of the roots or leaves of the marsh mallow, which are supposed to be otherwise useful in ophthalmia.

“ If we except the preparations of opium, the collyria afforded by the mineral kingdom are more powerful than the foregoing, particularly the preparations of mercury, lead, zink, and copper. The muriat of mercury, the acitade of lead, and the sulphates of zink and copper, are the preparations generally employed.”

Alum, sal ammoniac, tutty in a paste, and many other preparations, are occasionally employed. “ Sir Hans Sloane’s celebrated ointment for ophthalmia is the unguentum tutiæ and the sulphat of zinc rubbed with butter. Sir John Pringle recommends the acitade of lead rubbed with the white ointment and a little of the traumatic balsam.”

Electricity in slight sparks is frequently employed in languid, habitual ophthalmia, but rarely with success. “ Local blood-letting,” according to the author, “ generally affords the most immediate, blistering the most permanent, relief. If the symptoms are very considerable, both are necessary; then, although there be no fever, the local blood-letting should precede the application of the blister.”

In slight cases the common collyria, or opium, in the way recommended by Mr. Ware, may do without blood-letting. Muriat of mercury, and sal ammoniac given internally, have both occasionally cured obstinate ophthalmia; poultices and vapour the author does not approve. To prevent the return of ophthalmia, the general or local application of Coto has been found very useful, and when the ophthalmia seems to observe any periodical accession, the bark is the most effectual remedy.

The

The analysis of the remaining part of this volume, comprising the account of otitis, odontalgia, and some species of chynanche, together with an Appendix, containing an experimental inquiry into the circumstances influencing urinary depositions in fever, we must reserve for our next Number.

ART. IV. BURSERIUS's *Institutions of the Practice of Medicine*, Vol. II.

(Concluded from vol. vii. page 400.)

THE next of the continued remittents treated of in this work, is one which, from various causes, has of late years excited the attention both of writers and of practitioners in a very considerable degree; we mean, that distinguished by the appellation of

PUERPERAL FEVER.

The author says, that this disease is not new, but was well known to the ancients, and accurately described by them; for that in the first and third books of the *Epidemics* of Hippocrates, eight histories of puerperal women, labouring under it, are recorded, which bear so strong a resemblance to those described by modern writers, that the latter may almost be suspected of having copied them. Much praise, however, he observes, "is due to these authors for endeavouring, by new and repeated investigations, to throw light upon it; although it does not appear sufficiently clear that the utility derived from their works corresponds with the number of the authors, or the severity of their labours. For, concerning the nature, causes, and cure of this disease, I find such diversity of opinion prevailing among them, that it becomes no easy task for students to determine to whom credit ought to be given, or by whose opinion they ought to abide."

Whether any part of this observation be applicable to our author himself, or that he has succeeded in his attempt to reconcile this contrariety of opinion, we will not pretend to determine: we *know*, indeed, that we have toiled through fifty-eight pages, employed, as he alleges, in discussing the pathology of the disease, and we *think*, that if at least fifty of them had been devoted to any other subject, much unnecessary labour would have been saved both to the author and to the reader.



He begins with examining, at great length, the opinion of the French physicians, who attribute the disease to a retention or defective secretion of milk; and enters on a very elaborate, ingenious, and indeed satisfactory refutation of their hypothesis. He thinks, however, that the opinion of some of the older writers, in some measure connected with this, and ascribing the fever to diminution, suppression or retention of the lochial discharge, is not altogether unfounded; and he also seems inclined to admit into the number of its causes, inflammation of the uterus, notwithstanding the confident assertions of Leroy, Hulme, and Leake, who, on dissection, have almost uniformly found that viscus in a sound state.

The opinion of the two last-mentioned writers, that the disease consists in an inflammation of the intestines and omentum, is considered by our author as wholly untenable, because patients sometimes recover without the use of blood-letting. This seems to be considered by him as an objection so unanswerable, that all farther examination of the theory would be entirely superfluous: the supporters of it will, perhaps, be disposed to contend, that the difficulty is not so completely insurmountable as it has appeared to the learned Professor.

That this fever is of a putrid, and not of an inflammatory kind, as Mr. White has supposed, the author thinks not true; he admits, that "in England, where the abuse of spirituous liquors, and the heating regimen is probably more general among puerperal women, and cleanliness not sufficiently observed, and where they are commonly shut up in close ill-aired apartments, especially the poorer class of people, it is highly probable that they are attacked with acute and putrid fevers from this cause. But, since such a mode of life does not prevail universally, it would be altogether absurd to conclude, that puerperal women, in a peculiar manner, are attacked with this kind of fever." Besides, it does not seem to him that the causes which are capable of producing this *putrid state of the fluids*, can possibly take effect so early as the first or second day after delivery, when the fever sometimes commences, "unless some dyscrasy previously exist in the blood, or the body abound with a gastric or bilious colluvies, or the fluid be otherwise vitiated."

Although we purpose hereafter to say something on the merits of the translator, we must here for a moment quit the author, for the purpose of observing, that as this passage is rendered, it is little better than mere jargon. We subjoin the original



original sentence, from which our readers may have an opportunity of at least endeavouring to discover what is the author's meaning: "Nisi dyscrasiâ jam aliquâ humores ante peccaverint, aut corpus gastricâ saburrâ, aut biliosâ colluvie scatcat, aut aliunde cacochymicum sit, aut aliter male affectum."

Riverius, the author thinks, entertained a similar opinion, as to the previous state of putrescency giving rise to the fever; and Willis enumerates, among the causes of it, "a bad diathesis of the blood," contracted during gestation. Having stated, at some length, the sentiments of these writers, he proceeds to relate the principal particulars of *six* cases of the disease from Willis, *nine* from White, *seven* from Gastellier, and *three* from Hippocrates. The result of the whole is summed up in the following curious paragraph:

"If any one impartially considers these observations, and attends to the manifest causes which involve puerperal women in so many fevers and complaints, he will be obliged to confess, unless he be mad, that the chief and most frequent of them are not single, but various, namely, sometimes retention, suppression, or corruption and aberration of the lochia; sometimes the placenta, or the remains of the *secundinæ*, left in the uterus, and putrefying there; sometimes preceding vitiation of the fluids; sometimes putrid, or bilious, or otherwise depraved chyle in the *primæ viæ*, or too long retention of the fæces; sometimes alkalescence, or putrid colliquation of the blood, whether occasioned by the heating regimen, or by excessive heat of the bed, or chamber, or by impure air, or that which is charged with any putrid miasma; sometimes difficult labour, and injury done to the uterus; sometimes also, but rarely, sudden retiring and metastasis of the milk, or its having become corrupted or acid by stagnation, or several of these causes put together, as more frequently happens. But, according to the variety and noxious power of these causes, various kinds of these fevers and diseases must necessarily follow, namely, sometimes hysteritis, enteritis, pleurisy, peripneumony, and phrenitis; sometimes *acute gastric fevers*; sometimes *gastrico-putrid*, or *gastrico-lochial*; or simply *lochial* ones; sometimes *ardent bilious tritæophyæ*, or *colliquativæ*, or *bilious* ones: and of these, again, some *benign* and *pure*; others *malignant*, *pernicious*, and *complicated*, resembling the nature of the hemitritæus. Of all of them, however, no one can deny, that those which occur the most frequently are the simple *gastric* and *lochial* fevers, or such as are combined with

these,



these, as the *gastrico-lochial* ones; and the *gastrico-putrid*, or *gastrico-inflammatory* kind."

It consequently follows, that no one cause in particular produces puerperal fever; but that its origin is manifold, and, of course, that not only the prognosis, but the cure, must vary according to the nature and combination of the causes.

If any of our readers shall have been endued with the patience requisite for enabling them to get through this paragraph, they will have perceived, *unless they be mad*, that the author has not confined himself to investigating the pathology of *the* puerperal fever; by which term, however general it may appear, is understood a disease as specific as any which is mentioned in the systems of nosology; but that he has also taken the trouble to inquire into, and enumerate all the causes, which may give rise to a febrile state in puerperal women. This certainly was not his intention; but if it had been his professed object, we should not have had occasion to commend his mode of effecting it. The confounding of fact and hypothesis is always mischievous; and they are here so perpetually blended together, that it must often be impossible for a student to distinguish them. This, indeed, is a fault which so frequently occurs in the work, as very considerably to detract from the value of it.

As some atonement for his tedious diffuseness, the author next gives the history of the puerperal fever, properly so called, as described by late writers. Here his talents as a compiler appear to great advantage, and he has given a very faithful, distinct, and accurate account, both of the phenomena and treatment of the disease. Of this we do not offer any abridgment, because the writings of Hulme, Leake, and White, from which it is taken, are so well known as to render it altogether superfluous.

The last of the Continued Remittents is the Continued Quartan, or Tetartopha, the exacerbations of which occur on every fourth day, no apyrexia succeeding during the intermediate days. This, the author observes, is an extremely rare disease, and he very judiciously says little about it. A variety of this fever is mentioned, the *quartana continua soporosa* of Piso, in which the disease appears under the form of a profound sleep; but respecting this "*non satis liquet*."

The author now proceeds to his fourth and last division of fevers, the Compound or Proportionate, of which he particularizes only two, the Semitertian and the fever compounded of  
Synochus

Synochus and Intermittent. Very few pages are devoted to these varieties; and the author seems fully aware, that however necessary these minute distinctions may be in a complete nosological work, they are of extremely little importance in a practical point of view.

In an "Appendix to the remitting fevers, which observe sometimes the quotidian, sometimes the tertian type," the author describes the "primary or essential *colliquative* fever." This, he says, is often confounded with the gastric fever, but differs from it, "because it does not shew symptoms of indigestion; because the tongue is not foul; because there is not a bitter taste in the mouth; and because the patient is not so much distressed with nausea or vomiting as in the gastric fever, in which the febrile fomes is lodged in the *primæ viæ*, and does not enter into the blood, unless indirectly; while, on the other hand, in the colliquative fever it primarily resides in the blood and other fluids, and is not carried to the *primæ viæ*, or intestines, but in a secondary manner." One of the principal symptoms is a diarrhœa, consisting of matter which is thin, fetid, crude, not much varied, fatty, frequently resembling dissolved soap, depositing certain small, whitish, concrete substances, like suet, or very thick gravelly matter, but unattended with manifest marks of indigestion. There are also present viscid, greasy, fetid sweats; or at least an oily and offensive vapour proceeds from the body. The appearances of the urine are said to be peculiarly characteristic of the disease; "at first it is neither very thick, nor turbid; but it generally contains a cloud; or a thin, divided enæorema is suspended in it; or it is covered on the surface with a fatty pellicle. It then becomes by degrees thicker, and of a dusky red colour, depositing a similar sediment, that scarcely coheres, and is unequal, becoming at length like bran or flour, or changing into a mucous, viscid sediment, of various colours." The duration of this fever is considerable; it lasts thirty, forty, or sixty days; nay, "some have seen it prolonged for several months!" What is this but hectic?

Having finished the consideration of idiopathic fevers, the author enters on that of exanthematic febrile diseases; on these he makes some very good general observations by way of preface, which do not well admit of abridgment. With respect to the causes of eruptive fevers, he says, "I hold it undoubted, that in these diseases some acrid principle is either generated within the system, or is secreted on the surface, in its nature, force, and effects, different in each of them. For,  
in



in fact, although in all of them it constantly proceeds to the skin and teguments of the body, yet sometimes one, sometimes another seat is occupied by it, and thus a difference in the shape, size, and appearance of the spot or pustule, is occasioned in each. Thus one attacks the cutaneous vessels, another the corpus mucosum of Malpighi, another the cellular spaces or follicles; one gradually inflames the whole skin, another some particular part; one shews itself in diffused spots, another in separate and distinct ones; one breaks out thickly spread, another thinly. This one occasions minute echymoses, as it were, that one produce pustules, both in colour, size, and appearance, almost *sui generis*; this one forms small phlegmons, or blisters, or phlyctænæ, or tubercles, of a particular shape, according to the nature and *shape* (seat) of each."

Erysipelas is divided into *primary* or *essential*, occurring spontaneously from a diseased system; *accidentia*, produced by heat or cold, the application of acrids, or external violence; and *symptomatic*, or depending on another disease. Its seat, the author thinks, is in the red and colourless vessels as well as the cellular membrane of the skin and the rete mucosum. In the treatment of it, he says, bleeding may sometimes be proper; the bowels should be kept open by injections, rather than irritated by cathartics; and the eruption supported by cooling diluents. The topical applications are to be made chiefly with a view to defend the parts from the air, for which purpose rags dipped in mild decoctions, with milk, are advised, unless the heat and redness be urgent, in which case vinegar may be substituted for the milk. If the skin be much distended, and mortification be likely to come on, frequent incisions may be made. The latter measure is particularly necessary if the disease be of a malignant nature, when alexipharmics and antiseptics are also requisite, both internally and externally.

The "Ignis sacer, called Zona, or Zoster," is the subject of the next chapter. "It is to be distinguished from erysipelas, both simple and *bullous*, and likewise from herpes, particularly the species called *exedens*. In erysipelas, a rose-coloured red, not raised above the surface, first appears; in the zona, on the contrary, elevated and deep-seated pustules break out, and seem to be the primary phenomenon; but the pustules and phlyctænæ, which are conjoined with the erysipelas bullosum, supervene upon it at its height; while in zona they appear at the beginning. Moreover, the seat of erysipelas is confined



confined to the surface, while that of the zona is deeper; for it is evident, that not only the whole skin, but also the adipose membrane lying under it, is affected, inflamed, and suppurates. There is likewise no small distinction between *erysipelas ulceratum* and the zona. In the former, the ulcers tend farther and remain long; in the latter, if they ever take place, they are small, circumscribed, hollow, and quickly curable, and are changed into dry eschars. Herpes, again, generally has much smaller and milder pustules, neither so painful and inflamed, nor are they arranged in the shape of a girdle; and if it ever appears to be of the species called *exedens*, it exhibits bad, corroding ulcers, like cancerous ones, of long continuance; while the zoster is generally an acute disease, and of short continuance." The cure consists in topical bleeding, anodynes, and emollient applications.

Respecting the scarlet fever we meet with little novelty of remark. The author divides it into two species, the *benign* and the *malignant*, which, however, he considers as differing chiefly in degree. Some good observations are subjoined on the diseases which supervene to scarlet fever in consequence of premature exposure to cold. The first of these is the swelling which frequently occurs, and which, the author says, is of two kinds, *warm* and *cold*. He calls that "the cold one which resembles an actual œdema, or anasarca, appearing white, soft, and watery, and by no means warm to the touch, being accompanied with universal debility; loss of appetite, low, languid pulse, not hard nor febrile; while the warm one approaches more to a leucophlegmatic swelling; is hard and tense, does not retain the impression of the finger, and imparts an acrid or pungent heat to the touch, attended with a hard, frequent, and febrile pulse, difficulty of breathing, snoring, dry, white tongue, generally excessive thirst; sometimes, however, inconsiderable, and with very scanty urine, or almost a suppression of it." In the latter, bleeding and the other parts of the antiphlogistic regimen are recommended: in the cold species, cathartics and diuretics, and occasionally bark and blisters, are advisable. The pains of the joints, and the glandular swellings which sometimes succeed to the disease, admit of similar distinctions in their mode of treatment.

The nettle-rash, the author says, is the slightest and safest of the exanthemata; it generally terminates in a few days, and requires little aid from medicine: the repetition of slight ca-



thartics is, in all cases, sufficient for the cure. The *essera* of Vogel, he thinks, is plainly different from this disease.

“The pemphix of modern authors, or the *morbus phlyctæmoides*,” is treated of very shortly. Dr. Cullen entertained a doubt whether the eruption, described as occurring in this disease, be not always symptomatic; but our author is of opinion, that this cannot be the case, because the eruption “has sometimes been found alone, and unaccompanied with fever.” In such cases, what claim has the disease to be ranked among the *exanthemata*?

The last chapter of this volume is devoted to “Measles;” of both species of which, benign and malignant, a very ample and accurate description is given. What is said on the diagnosis, prognosis, and treatment of them, has been compiled with the author’s usual care, and somewhat more than his usual judgment. He also enumerates the principal secondary diseases which are occasioned by measles, as well as some of the anomalous appearances which the disease itself may assume.

From the account which we have now given of the contents of this volume, our sentiments respecting the merit of the original work may easily be collected. We shall defer the offering of any general opinion on this subject, in addition to that given when the first volume was reviewed, until the three remaining shall have been before the public. We do not, however, think it necessary to delay what we have to say on the manner in which Mr. Brown has executed his part in the volume now under consideration; and we are concerned to remark that, though perfectly qualified for the task which he has undertaken, he has in many instances exposed himself to the charge of very culpable negligence and inattention.

Some of his sentences are wholly unintelligible; for example, on the subject of the malignant nervous fever, paragraph 439, he says, “Under such a degree of languor, therefore, as the viscid and sluggish fluid *ought to be* resolved and digested very slowly, and the congestions and collections in the minute and relaxed vessels of the encephalon, or in the intervening spaces, are very difficulty discussed, or the hurtful agent resident in the nerves *being* expelled from thence with difficulty; no one will wonder why the disease is of such long continuance, and is sometimes terminated even by insensible resolution.”

No one could from this form any conjecture as to the meaning of the original passage. The first sentence of § 342, a  
part



part of the note on § 344, and the last sentence of § 382, are equally obscured by the translation. In § 394, "*potior saltem pars*" is ridiculously rendered "*rather a part*," which can have no meaning whatever; in § 403 we are told of "*spirit of sweet nitre*;" and in § 444, "*balbutiunt*" is translated "*talk childishly*," which, to us, seems to have a very different signification from the true import of the term "*speak indistinctly*."

These errors are not unworthy of correction; but they are yet exceeded by some, which have not only misrepresented, but completely *inverted* the author's meaning. In § 336, "*illæsis*" is translated "*injured*;" in the note on § 340, "*sine febris esse*,"—"are accompanied by fever;" in § 469, "*magis ad putridam quam inflammatoriam naturam accedere*,"—"that it approaches more nearly to the putrid and inflammatory kind;" in § 473, "*cibi fastidium*" is rendered "*desire for food*;" and in § 484, "*sæpe lochia non minui*,"—"that frequently the lochia are diminished."

Such blunders as these are really unpardonable. We could not, even if they were less evidently the fault of the translator, pass them over as typographical errors, for a numerous list of these is prefixed to the volume, in which not one of those now alluded to is comprised. We cannot but regard them, therefore, as the effects of almost wilful carelessness; and as nothing can be more disrespectful to the public than this failing, we consider the translator as (on this account) meriting the severest reprehension.

There are some minor inaccuracies, to which we do not advert for the purpose of censure, for it was probably not in the translator's power to avoid them, unless they were pointed out to him; we allude to those expressions, which, as we know that they are not English, we suppose to be *Scotticisms*. Of this description are—"fall into a faint"—"proven"—"notwithstanding of"—"bedfast"—"pulse very fast," (*creberrimus*),—"if the pulse be found great;" &c. We notice these, because, though not very important, it will cost little additional trouble to avoid them in future.



ART. V. DARWIN'S *Phytologia*; or the *Philosophy of Agriculture and Gardening*.

(Concluded from page 448. of vol. vii.)

WE now resume our account of this interesting work, which the necessity of noticing some new publications at considerable length prevented our doing in our last Number.

Having examined the properties of lime as a manure, the author proceeds to consider the effects of clay, metallic oxyds, nitre, and sea salt. In speaking of clay, he observes, "it is commonly believed that lumps of clay become meliorated by being exposed to frost in its moist state, which by expanding the water, which it contains, by converting it into ice is supposed to leave the particles of the clay further from each other. This however seems in general to be a mistaken idea, since if the act of freezing be not very suddenly performed, a contrary effect seems to occur, as noticed by Mr. Kirwan; who observes, 'that clay in its usual state of dryness can absorb two and a half times its weight of water without suffering any to drop out, and retains it in the open air more pertinaciously than other earths; but that in a freezing cold clay contracts more than other earths, squeezing out its water, and thus parting with more of it than other earths.' Mineralogy, vol. i. p. 9."

The part on *the Application of Manures* contains a number of important practical remarks, which, as they are not capable of abridgment without injury, we shall present to our readers in the author's own words:

"Two questions of importance here present themselves. As the spontaneous or chemical changes of manure heaps in farm-yards gradually progred from the saccharine and mucilaginous commencement through a great variety of other fermentations; which can only be named from the principal material, which each of them produces, as carbonic acid, alcohol, vinegar, volatile alkali, hydrogen, nitrous acid, and finally carbonic earth. At what era or stage of this decomposition of vegetable and animal substances can they be most advantageously applied to the purposes of agriculture? and secondly, at what time of the year?"

"1. In respect to the era of the progress of the decomposition in manure-heaps, in which they may be most advantageously applied in agriculture, the particular purpose of that application must



must be attended to. Where they are designed to be spread on the surface of grass lands, as a top-dressing, the accumulations of vegetable and animal recrements should be permitted to go through the various spontaneous processes of decomposition, which begin with the saccharine and mucilaginous state, and end with the production of carbonic earth, with many kinds of intermediate fermentations, if they may be so called, which accompany or succeed each other, and which I believe to be more in number than have had names applied to them.

“ But that less of the fertilizing materials, whether of soluble solids, or of fluids, or of gasses, may be lost in these series of fermentations; it is a very advantageous management to cover them with soil, when the first fermentation is advanced, as is known by the production of considerable heat; or when the putrefactive one has commenced, which is known by the smell of volatile alkali, or of hydrogen. By this method the too great rapidity of these fermentations is checked, and the fluid part of the manure is retained by the addition of the soil below, and the gaseous part by that above; and if to this be afterwards added a proportion of lime, which by uniting with the nitric acid may retain it from exhalation or from alluviation, every thing is preserved that art can accomplish.

“ Where manure-heaps are to be ploughed into clayey soils, which are liable to become too solid and impenetrable to the root-fibres of seeds, as of wheat; or where knobby or bulbous roots are to be inserted to produce other knobs or bulbs beneath the soil, as potatoes; it is probably more advantageous to bury the manure in a less decomposed state, while some of the straw retains its form; as such parts by their slower decomposition will longer prevent the super-incumbent soil from becoming too solid; and though they will in this situation require some time before they will be perfectly decomposed, and reduced to the black carbonic earth; yet they will in the end totally decay, and give the same quantity of nutriment to the roots, though it may be more gradually applied.

“ 2. In respect to the time of year those manures, which are to be ploughed or dug into the ground, should be used immediately before sowing the seeds or setting the roots, which they are designed to nurture; because the atmospheric air, which is buried along with the manure in the interstices of the earth, and which for many weeks, or even months, renders the soil loose, and easily impressed by the foot on walking



walking on it, gradually evolves by its union with carbon a genial heat very friendly to vegetation in this climate, as well as the immediate production of much fluid carbonic acid, and probably of a fluid mixture of nitrogen with hydrogen, which are believed to supply much nutriment to plants.

“ But those manures, which are designed to be spread on the surface of grass-land, which is called the top-dressing, are best applied, I suspect, in the early spring; and should be dispersed over the soil almost in a state of powder, or in lumps of very loose cohesion; as at this time the vernal showers wash them into the soil; and they are applied to the roots of the grass, before their essential parts are diminished by winter rains or by summer exhalation. There are some in Derbyshire, who spread manure even on the meadows, which are annually overflowed by the Trent or Derwent, at the end of summer, or as soon as the grass is mowed and removed; which appears to be an improvident management, since the aftermath, or autumnal grass, is thus rendered unpalatable to the cattle; and the winter rains, or the vernal floods, which generally occur with the return of the south-west winds, after the season of frost ceases, must wash away a great part of it.

“ In respect to the most economical manner of using manures in agriculture Mr. Parkinson asserts, that one great advantage of the drill-husbandry consists in putting the manure into drills, which he directs to be made at two feet distance from each other. He sows wheat, beans, peas, cabbages, on this manure, and affirms, that four loads of manure on an acre in this kind of husbandry is equal to sixteen loads in the usual way of spreading it over the whole of the field. *Experienced Farmer*, vol. i. p. 32.

“ 3. A third question here presents itself, if the recrements of vegetable and animal bodies buried a few inches beneath the soil undergo the same decomposition, as when laid on heaps in farm-yards. And though this is accomplished more slowly, yet it is attended with less loss of carbonic acid, and of volatile alkali, and of hydrogen, and of the fluid matter of heat; all which are emitted in great quantity during the rapid fermentations of large heaps of manure, and are wasted in the atmosphere, or on unprolific ground; would it not in general be more economical to bury such vegetable and animal matters beneath the soil without a previous fermentation and putrefaction?

“ In answer to this it must be observed, that in some cases the use of recent vegetables ploughed into the earth is found of advantage, as in sandy soils buck-wheat, or vetches, are sown,  
and



and the crop ploughed in, before it ripens its seeds. In this circumstance the recent crop is buried in its saccharine and mucilaginous state, which must undergo indeed a slower fermentation, without being mixed with animal substances, but no part of the organic matter, nor of the fluid heat, is lost to the purposes of new organization.

“ So in the cultivation of clayey lands, whose tenacity is too great; or where knobby roots, as potatoes, are to be inserted for the production of other knobby roots beneath the soil; long muck, as it is called, or such which is only so far decomposed as to dissolve the mucilage or more tender vessels or membranes, but in which the form of the fibrous or ligneous parts of the straw remains, is recommended above; and may in these situations perhaps be ploughed into the ground even in their most early state, when rejected from the stable, or cow-house, before the commencement of their spontaneous dissolution.

“ So also in gardens, which are already fertile, and do not want the immediate assistance of mature manure, it may be more economical to bury the weeds, as the ground is dug, than to convey them to a manure-heap, and replace them after a twelvemonth's decomposition.

“ But where a luxuriant crop is immediately wanted, a manure-heap towards the end of the putrefactive process, by being recently interred in the soil, which is immediately to be sown or planted, has this great advantage; that the carbonic acid is presently formed by the mixture of atmospheric air with the carbon of the manure; which exists therefore in its fluid, not its gaseous state, and is thence more readily absorbed. Secondly, ammoniac is produced, and nitre, and hydrogen probably is mixed with nitrogen; and these also, I suppose, exist at first in their fluid, not in their gaseous state. And thirdly, from these combinations a genial degree of heat is evolved, which so much assists the vernal growth of vegetation.

“ And where manure is to be used as a top-dressing, it is necessary, that it should be in a state of powder, or in small lumps of loose cohesion, as mentioned above; that it may be easily washed by rains to the roots of the grass, or that the young stems of grass may readily shoot themselves through it; whence mature heaps of manure are for this purpose necessary; and on this account any adhesive manure, as cow-dung itself, should be weekly gathered from grass-ground, where cattle are nourished, and laid on heaps with soil, or straw, or weeds, to ferment



ferment or putrefy ; till it becomes less tenacious, and can be profitably replaced in the ensuing spring.

“ Finally, I suspect the most economical method of disposing of the straw and dung from the farm-yard would be, as soon as a dark coloured water drains from the heap, by which much loss is sustained, to carry the refuse of the stable and cow-house, as frequently as convenient, to the ground, where it is designed to be employed ; and there to mix it with earth in heaps of proper size, and to cover them likewise with soil ; and by these means I suppose the whole process of decomposition may be carried on with very little loss ; and by the addition of a greater or less quantity of soil that the era of complete or most profitable decomposition of the compost may be managed, so as to coincide nearly with the time it may be wanted.

“ 4. Fourthly, it may be asked, what kinds of manure contribute most to the luxuriant growth of vegetables ? In answer to this it may be said, that as plants are inferior animals, and are furnished with absorbent vessels in their roots correspondent to the lacteals in the stomach ; that the same organic matters, which by their quick solution in the stomach supply the nutritive chyle to animals, will by their slow solution in or near the surface of the earth supply the nutritive sap-juice to vegetables. Hence all kinds of animal and vegetable substances, which will undergo a digestive process, or spontaneous solution, as the flesh, fat, skin, and bones, of animals ; with their secretions of bile, saliva, mucus ; and their excretions of urine, and ordure ; and also the fruit, meal, oil, leaves, wood, of vegetables, when properly decomposed on or beneath the soil, supply the most nutritive food to plants.

“ Secondly, the chyle of all animals is similar to the sap-juice of all vegetables in this circumstance, that they both contain mucilage and sugar, and seem only to differ in this respect, that the chyle of animals also contains oil, which being mixed with the mucilage gives it its whiteness like milk. Hence those matters must supply nutriment most expeditiously to vegetables, which contain mucilage and sugar, or produce them with the least decomposition, as the jellies from the shavings of horns, from hair, woollen rags, and the saccharine matter of sweet fruits, roots, kernels, seeds ; and in the same manner these things with the addition of oil are most expeditiously nutritive to animals.

“ Thirdly, such materials as contain in solution those simple substances, which constitute a great part of vegetable bodies,



dies, as carbon, which is found in most earths; and oxygen, hydrogen, and nitrogen, which are found in water and in air; and from hence we may conclude, that whatever material has constituted a part of living organic bodies, may again constitute a part of them; and that with more expedition, if they can be used without being decomposed into their primary elements.

“ Mr. Bewley, the Norfolk philosopher, said to a friend, who was riding by his side, that when he wanted a whip, he habitually looked for a dead stick in the hedge, unwilling to pluck off a leafy branch, and destroy so many living buds. He might have added, that to burn a hair or a straw unnecessarily will diminish the sum of matter fit for quick nutrition, by decomposing it nearly into its elements, and should therefore give some compunctions to a mind of universal sympathy.

“ It would seem therefore, that long roots fixed into the earth, and leaves innumerable waving in the air, were necessary for the decomposition and new combinations of water and air, and the conversion of them into saccharine and mucilaginous matter; which would have been not only cumbrous but totally incompatible with the locomotions of animal bodies; for how could a man or quadruped have carried on his head or back a forest of leaves, or have trailed after him long branching lacteals terminating on the surface of the earth? Animals therefore subsist on vegetables; that is, they take the matter so far prepared, and possess organs to prepare it further for the purposes of greater sensibility, and of higher animation.”

In the eleventh section the author proceeds to treat of *Drain-  
ing and watering Lands*, in which we meet with some curious disquisitions on the origin of springs, and an account of the improved methods of draining. With respect to the advantages of flooding or watering lands, the author observes, “ 1st, that not only the common meadow grounds are enriched, but morassy ones are consolidated, by the mud brought over them from river water; or the calcareous sediment, and azotic or nitrogen air, from most spring waters, during those seasons when grass does not naturally make much progress in its growth. 2. They are defended from frost by the flowing water, or by the ice, when it is frozen; and thus a much forwarder crop of grass is produced, as may frequently be seen over pieces of ground naturally moist; which look green in the spring, some weeks before that on drier land in their vicinity. 3. The ground is rendered more easily penetrable by the roots of grass, both by its being kept softer, and also from its being



seldom frozen below the surface in the vernal months. 4. This early crop may be eaten off by cattle or sheep, and a new flooding for a short time will forward the growth of it so as to produce a good crop of hay. 5. After the hay is removed another flooding for a short time ensures a luxuriant growth of autumnal grass, or aftermath.

“ The difficulty of getting moist lands free from rushes is said to be readily overcome by flooding them, and that especially after previously mowing them, as their spongy pith will then absorb so much water, as to cause them to putrify by its stagnation; or if this be done in autumn or spring, and a frost supervenes, the water in their pith by expanding, as it becomes ice, bursts and destroys their organic structure.

“ The following conclusion is copied from Parkinson's Experienced Farmer. ‘ Upon the whole, artificial watering of meadows is a most profitable improvement; it robs no dunghill, but raises one for the benefit of other lands; for if a farmer can water ten acres of land, cut the grass and use it either in stall or fold-feeding, he might keep perhaps forty beasts; and by working the manure made by them into a compost, and applying that compost to other lands, he might either have a great deal more hay for the winter, or feed more cattle in the summer.’ ”

The twelfth section treats of the *Aëration and Pulverization of the Soil*. By turning over the soil with the plough, or spade, the author observes, that the penetrability of it by the roots of plants is also much facilitated; and for this purpose, as well as for the admixture of atmospheric air, it can scarcely be reduced into too fine molecules, or a kind of wet powder; for the moisture of soil is as necessary for its being permeated by the young roots of plants, as its small cohesion.

Secondly, a more intimate mixture of the various ingredients, which most soils possess, as carbon, calcareous, argillaceous, siliceous, and magnesian earths, with various metallic oxydes, as those of iron, and sometimes of manganese, and calamine, all which by frequent turning over the soil with the plough or spade, become mixed so as to act on each other or on the roots of vegetables in every minute part of the soil.

And thirdly, the vernal rains are retained by their sinking more readily into the pores and cells of land recently turned over, and which still possesses an uneven surface. Besides a greater surface of it being continually exposed to the passing air, and to the heavier impurities, which it perpetually contains, as carbonic acid, soot, odours of many kinds.

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The uses of fallowing are thus briefly stated by the author :  
 “ 1. By repeatedly turning them over much carbonic acid is produced in its fluid state ; and perhaps some of the nitrous and phosphoric acids ; these may remain united with the vegetable recrements, or with volatile alkali, or with calcareous earth. 2. The parts of the soil may become better mixed together, and thus either chemically affect each other to their mutual melioration ; or they may more uniformly supply nutriment to the roots, which penetrate it. 3. The soil may become broken into a moist powder, and may thus be more easily permeated, and supply a greater surface of its cavities for the vegetable absorbents to apply themselves to. 4. Unprofitable plants, or weeds, not being permitted to grow on it, or their being perpetually ploughed under the soil in their early growth, much vegetable nutriment will be reserved by not being expended ; or it will be increased by the saccharine and mucilaginous matter of the young plants, which are thus buried in it.”

Notwithstanding this, we cannot but think that the uses of fallowing have been over-rated by agricultural writers ; for soils will certainly become injured by frequent exposure to the air, their carbonic matter being converted into an acid by the oxygen of the atmosphere ; which acid will escape into the air, or be washed off by rains.

In the thirteenth section we meet with much philosophical acumen on the almost unknown subjects of light, heat, and electricity. The perspiration of plants, the author observes, is decomposed by light ; and he thinks, that the hydrogen retained gives them their green colour. Hence plants growing in darkness, or the shade, are white, and become green by being exposed to the sun's light ; for the natural colour being blue, the addition of hydrogen adds yellow to this blue, and thus, to use the author's expression, *tans them green*.

He supposes a similar circumstance to take place in animal bodies ; “ their perspirable matter,” he observes, “ is probably hyper-oxygenated ; and, as it escapes in the sunshine, loses its superabundant oxygen ; and by the hydrogen being retained the skin becomes *tanned* yellow. Though this must occur in less quantity in animals, as they perspire so much less than vegetables ; and the greatest part of their perspired matter, which exhales from the lungs, is not exposed to the sun's light. In proof of this it must be observed, that both vegetable and animal substances become bleached white by the sun-beams and water, when they are dead, as cabbage-stalks, bones, ivory, tallow, bees-wax, linen and cotton cloth ; and



hence, I suppose, the copper coloured natives of sunny countries might become etiolated, or blanched, by being kept from their infancy in the dark, or removed for a few generations to more northern climates."

In speaking of the effects of electricity in promoting vegetation, the author describes a machine invented by Mr. Bennet, for the purpose of keeping flower-pots perpetually subject to more abundant electricity: it consists of a small apparatus fixed to the pedulum of a clock, and which is illustrated by a plate.

The fourteenth section treats of the *Diseases of Plants*. These are divided into four kinds: 1. Diseases from internal Causes. 2. Diseases from internal Aliments. 3. Diseases from Insects. 4. Destruction by Vermin. In this system we meet with much interesting matter, particularly concerning the irritability of plants, which, with Dr. Girtanner, and some other philosophers, the author thinks originates from oxygen. Respiration, he observes, is every minute necessary to animal life; and he adduces some circumstances to shew, that in this operation oxygen becomes mixed with the blood, and is separated again from it by the brain and spinal marrow, after having undergone some change in the circulation or secretion of it. In the same manner, he thinks it not improbable but that the spirit of vegetation may have a similar origin, probably from the uncombined oxygen of the air, respired by the upper surfaces of their leaves; and not from that, which is absorbed by their roots in a more combined state; and that this oxygen is again separated from their juices by the sensorium, or brain, of each individual bud, after having undergone some change in the circulation or secretion of it.

He then proceeds to shew, that the circumstances attending vegetable irritability are similar to those belonging to the irritability of animals.

"When the vegetable fibres," he observes, "have been long stimulated, more than natural or usual by increase of heat, the spirit of vegetation becomes exhausted; and in consequence a slighter degree of cold will destroy them; because their fibres after having been long excited by a greater stimulus will cease to act on the application of one, which is much less; whence after hot days tender plants are more liable to be destroyed by the coldness of the night. Whence in more northern climates the gardeners shade their tender vegetables, as the flowers of apricots, in the spring-frosts from the meridian sun, as well



as from the coldness of the night; which is generally the greatest about an hour before sunrise.

“ On the contrary, when plants have been long exposed to a less stimulus of heat than natural or usual, the spirit of vegetation becomes accumulated; and if they are too suddenly subjected to much greater heat, their too great increase of action induces inflammation, and consequent mortification, and death; as occurs to those people, who have had too much warmth applied to their frozen limbs. Experiments of this kind were instituted by Van Uslar; he increased the irritability of *euphorbia peplus* and *esula* by secluding light and heat from them; and, when he exposed them to a meridian sun, they became gangrenous, and died in a short time.”

This greater or less irritability of plants he ascribes to their previous habits in respect to the stimulus of greater or less heat. Thus the times of the appearance of vegetables in the spring seem occasionally to be influenced by their previously acquired habits, as well as by their present sensibility to heat. For the roots of potatoes, onions, will germinate with much less heat in the spring than in the autumn; as is easily observable, where these roots are stored for use; and hence malt is best made in the spring, as the barley will then germinate with a less degree of heat.

As a proof of this, he mentions, that “ the grains and roots brought from more southern latitudes germinate here sooner than those, which are brought from more northern ones, owing to their acquired habits. Fordyce on Agriculture. It was observed by one of the scholars of Linnæus, that the apple trees sent from hence to New England blossomed for a few years too early for that climate, and bore no fruit; but afterwards learnt to accommodate themselves to their new situation. (Kalm's Travels.) Vines in grape houses, which have been exposed to the winter's cold, will become forwarder and more vigorous than those, which have been kept during the winter in the house. (Kennedy on Gardening.) This accounts for the very rapid vegetation in the northern latitudes after the solution of the snows.

“ The increase of the irritability of plants in respect to heat, after having been previously exposed to cold, is farther illustrated by an experiment of Dr. Walker's. He cut apertures into a birch-tree at different heights; and on the 26th of March some of these apertures bled, or oozed with the sap-juice, when the thermometer was at 39; which same apertures did not bleed on the 13th of March, when the thermometer was at 44.

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The reason of this I apprehend was, because on the night of the 25th of March the thermometer was as low as 34; whereas on the night of the 12th of March it was at 41: though the ingenious author ascribes it to another cause. Transact. of the Royal Society of Edinburgh, vol. i. p. 19.

“Hence it follows, that plants which are kept in a warm room during winter, should occasionally be exposed to cooler air to increase their irritability; as otherwise their growth in the spring is observed to be very tardy, Mankind for the same reason requires the perpetual variations of the heat of the atmosphere to preserve or restore the irritability, and consequent activity, of the system. Whence the health and energy of men are greater, and their lives longer, in this variable island, than in the tropical continents, which possess greater warmth, and less variation of weather.”

The third part of this work is taken up with the consideration of Agriculture and Horticulture. In the fifteenth section the author considers the production of fruits. This section is divided into four parts: 1. On the Method of producing Fruit-bearing Trees. 2. On increasing the Number of Fruit-buds. 3. On the Perfection and Enlargement of the Fruit. 4. On the Method of preserving Fruit. In this section we meet with a great variety of interesting practical remarks, mixed, however, with much fanciful theory and entertaining digression.

It would take up too much room to follow our author through the whole of this extensive subject.

The sixteenth section is on the *Production of Seeds*, in which the author teaches us, 1. How to produce seeds early. 2. To produce them in great quantity. 3. To ripen them. 4. To generate the best kinds. 5. To collect good seeds. 6. To determine the goodness of seeds. 7. To preserve seeds. 8. To sow seeds advantageously. At the end of this section he considers the question concerning general enclosure, which being, at present, a subject very interesting to the nation, we shall present to our readers in his own words.

“The political advantage or disadvantage of the general enclosure of a country belongs to this place, as it more particularly affects the production of the cerealia, or corn-agriculture.

“There can certainly be no objection to the enclosure of commons, or at least to the division of them into private property, as they are believed to produce more than tenfold the quantity of sustenance to mankind, if they are employed in agriculture, or even in pasturage, than by nourishing a few



geese, sheep, or deer, in their uncultivated state covered with fern, heath, or gorse.

“ 2. The advantage of enclosing pasture-lands, or meadows, can not be doubted; as the management of fattening cattle, of milch-cows, sheep, and horses, becomes so much easier; as well as the more convenient use of the aftermath, when the hay is carried away.

“ 3. The lands also appropriated to the production of garden vegetables and fruit, as well as to the production of other perennial plants, which are used in the arts, as hemp, flax, madder, woad, rhubarb; and of the esculent roots or herbage raised for the consumption of cattle, as turnips, potatoes, carrots, cabbages, certainly require to be enclosed.

“ 4. The political question therefore finally concerns only the arable lands, and asks simply, whether a general enclosure of arable lands be favourable or unfavourable to the population; and consequent prosperity of the country, which must depend on the comparative quantity of nutritive provision, which is likely to be produced from the different modes of its cultivation.

“ Now as pasturage requires fewer hands in the management of it, and less art and attention to conduct it, than agriculture; and as its products in flesh, cheese, butter, take a higher comparative price at market, and are articles of greater luxury, than the products of arable land in corn, we may conclude, that pasturage will prevail in all enclosed provinces over agriculture. And as perhaps tenfold the numbers of mankind can be supported by the corn produced on an hundred acres of land, than on the animal food which can be raised from it, it follows, that an enclosed province will afford sustenance to a much smaller population; and as the number of inhabitants of a country depends on the ease, with which parents can procure sustenance for their families, marriages will become fewer, and the people decrease, when an arable country is converted into pasturage.

“ This last circumstance appears already to operate in these realms, since about half a century ago much corn was exported annually, but for several years last past great quantities of it have been annually imported for our own sustenance; and that even though potatoes are much cultivated, and must therefore lessen the consumption of grain, and the ungraceful fashion of covering the head with wheat flour is much diminished. Is this to be solely ascribed to the numerous enclosures of arable lands, or in part to the consumption of corn in the distilleries?

“ One



“ One very important consequence of any country producing a greater quantity of corn, than it consumes, and of thence exporting it to foreign nations, even by means of a bounty, consists in its certainty of preventing famine, the most dreadful of human calamities ; as in years of scarcity the stream of exportation can be stopped, and produce an ample supply by its stagnation at home.

“ Hence when a great part of any tract of country becomes employed in pasturage instead of agriculture, the inhabitants will become consumers of flesh instead of consumers of grain, and will consequently decrease in number from the want of sufficient sustenance. Besides which the people of agriculture are more active and robust than the people of pasturage, and more ingenious in the invention and use of machines necessary for the more artful cultivation of the soil, as well as more numerous, and will consequently become superior to them in arms and arts, and may in process of time conquer them ; which reminds us of the Egyptian Dynasty of Shepherd-kings, who were subdued by their agricultural rivals ; and also of the allegorical history of Cain slaying Abel, which were probably the names of two political hieroglyphic figures representing the ages of pasturage and of agriculture before the invention of letters.

“ It must hence certainly be an object of good policy to encourage agriculture in preference to pasturage, which in this country might be effected by preventing the enclosure of arable lands, and also of those parts of commons, which are best adapted to the growth of corn ; though the whole might be advantageously divided into private property. Unless some other means could be devised of preventing a nation from becoming too carnivorous, or of duly promoting the cultivation of grain, the former of which was heretofore produced by religious fast-days twice a week, and the latter by bounties on the exportation of corn. To which might be added a total prohibition of the destructive manufactory of grain into spirits, or into strong ale, and thus converting the natural nutriment of mankind into a chemical poison, and thus thinning the ranks of society both by lessening their quantity of food, and shortening their lives by disease.

“ In many villages, where much arable lands have been lately enclosed, the numbers of labouring people have quickly been much diminished both by the scarcity of food, and want of employment.

“ Worse



"Worse fares the land, to hastening ills a prey,  
Where wealth accumulates, but men decay.  
Princes or lords may flourish, or may fade,  
A breath can make them, as a breath has made;  
But a bold peasantry, their country's sword,  
When once destroy'd, can never be restor'd."

GOLDSMITH'S DESERTED VILLAGE.

"Mankind nevertheless seems by nature to be designed to subsist on both vegetable and animal nutriment, which appears from the length of his intestines, which like those of swine are much longer than the intestines of carnivorous animals, and much shorter than those of the vegetable eaters; and which also appears from the structure of his teeth, which partakes of the structure of those of the carnivorous and phytivorous animals; and lastly, because those people, who live solely on vegetables, as the Gentoo tribes, and those who subsist solely on animals, as the fish-eaters of the northern latitudes, are undoubtedly a feebler generation than those of this country, who exist on a mixture of both. A due proportion therefore of the two kinds of nourishment, such as perhaps at present exists, or lately did exist, in this nation, must be decidedly the best; the preservation of which, with the prohibition of spirits, or of strong fermented liquors, except occasionally as medicines, might probably render these kingdoms more populous, robust, prosperous, and happy, than any other nation in the world. But if the luxurious intemperance of consuming flesh-meat principally, and of drinking intoxicating liquors, should increase amongst us, so as to thin the inferior orders of society by scarcity of food, and the higher ones by disease both of mind and body, it may hereafter be said of Great Britain, amid her foreign conquests, as formerly of ancient Rome,

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"Sævior armis  
Luxuria incubuit, victumque ulciscitur orbem."

In the seventeenth section the author considers the *Production of Roots and Barks*. In the eighteenth the *Production of Leaves and Wood*. In the nineteenth, the *Production of Flowers*. At the end of this section we are presented with a curious dissertation on the *Happiness of organic Life*. "All organized nature," the author observes, "may be divided into stationary organizations, and locomotive organizations; the former of which are called vegetables, and the latter animals. All those parts of vegetables, which are most nutritious to animals, consist, as observed above, of aliment secreted from the vegetable blood, and laid up in reservoirs for the future



sustenance of their embryo or infant progeny ; which reservoirs are plundered by locomotive animals, and devoured along with the progeny, they were designed to support ! add to this, that the stronger locomotive animals devour the weaker ones without mercy. Such is the condition of organic nature ! whose first law might be expressed in the words, ' Eat or be eaten ! ' and which would seem to be one great slaughter-house, one universal scene of rapacity and injustice !

" 1. Where shall we find a benevolent idea to console us amid so much apparent misery ?—I hope the sympathizing reader will not think the following account of the happiness, which organized beings acquire from irritation only, impertinently inserted in this place ; their happiness derived from imagination and volition may be treated of in some future work.

" It may first be observed, that the seeds of plants and the eggs of animals, when they have left the pericarp or uterus, and have not yet commenced their new growth upon the soil, or beneath the wings of the mother, exist in a torpid state, not possessed of sensitive life ; and cannot therefore at this time be supposed to suffer pain, when they are destroyed by other animals ; though those animals obtain pleasure from the activity, into which their vascular systems are excited by the stimulus of the aliment thus supplied.

" Secondly, that the young of lactescent animals both acquire and communicate pleasure to the enamoured mother, from whom they receive their nutriment, as mentioned in *Botanic Garden*, vol. i. Canto I. l. 278, note ; which constitutes the most beautiful and most benevolent part of the great system of nature.

" Thirdly, all animals, and, I suppose, vegetables, receive pleasure in the reproduction of their species ; and where seeds are dispersed on the soil, and the eggs of some animals and of many insects are buried beneath it, to be revived and hatched by the warmth of the sun ; there can be no pain in these cases inflicted on the mother, when they are destroyed by animals or by insects, as she is unconscious of their destruction.

" Fourthly, as all animal existence must perish in process of time, by the exhausted irritability and consequent debility occasioned by the repetition of stimulus, which is termed habit, and appears to be an universal law of nature : it is so ordered, that as soon as any organized being becomes less irritable and less sensible, and in consequence feeble or sickly, that it is destroyed and eaten by other irritable and more sensible, and in consequence more vigorous organized beings ; as insects attack the weaker  
vegetable



vegetable productions in preference to the healthy ones ; and beasts of prey more easily catch and conquer the aged and infirm, and the young ones are defended by their parents. By this contrivance more pleasureable sensation exists in the world, as the organized matter is taken from a state of less irritability and less sensibility, and converted into a state of greater ; that is, in other words, that the old organizations, whether stationary or locomotive ones, are transmigrated into young ones : whence it happened, that before mankind introduced rational society, and conquered the savage world, old age was unknown on earth !

“ Finally, the aged and infirm, from their present state of inirritability and insensibility, lose their lives with less pain, and which ceases instantly with the stroke of death ; insomuch that death cannot so properly be called positive evil, as the termination of good.

“ To this should be added, that a long continued or a great excess of pain cannot afflict an organized being ; as syncope or sudden death, and consequent decomposition, attends very violent pains ; and a lingering death attends the continuation of less violent ones. Hence it becomes a consoling circumstance, that misery is not immortal.

“ A philosopher, whom I left in my library, has perused the above paragraphs, and added the subsequent one to my manuscript. ‘ It consoles me to find, as I contemplate with ‘ you the whole of organized nature, that it is not in the power ‘ of any one personage, whether statesman or hero, to produce ‘ by his ill-employed activity so much misery, as might have ‘ been supposed. Thus, if a Russian army, in these insane ‘ times, after having endured a laborious march of many ‘ hundred miles, is destroyed by a French army in defence of ‘ their republic, what has happened ? Forty thousand human ‘ creatures dragged from their homes and their connexions ‘ cease to exist, and have manured the earth ; but the quantity ‘ of organized matter, of which they were composed, presently revives in the forms of millions of microscopic animals, vegetables, and insects, and afterwards of quadrupeds and men ; the sum of whose happiness is perhaps much ‘ greater than that of the harassed soldiers, by whose destruction they have gained their existence !—Is not this a consoling idea to a mind of universal sympathy ?

“ ‘ I well remember to have heard an ingenious agricultor ‘ boast, that he had drained two hundred acres of morassy ‘ land, on which he now was able to feed a hundred oxen ;



‘and added, ‘is not that a meritorious thing?’ ‘True,’ replied one of the company, ‘but you forget, that you have destroyed a thousand free republics of ants, and ten thousand rational frogs, besides innumerable aquatic insects, and aquatic vegetables.’

“ ‘Having written the above, I fear you may think me a misanthrope, but I assure you a contrary sensation dwells in my bosom; and though I commiserate the evils of all organic being, *Homo sum, humani nihil a me alienum puto.*’

“ 2. The vascular systems of animal bodies are excited into action by the stimulus of the fluids, which they absorb, circulate, and secrete; and when this action is exerted in its natural or most usual quantity, it is attended with agreeable sensation, which constitutes the pleasure of organized existence. These vascular actions of animals, which perform digestion, sanguification, and secretion, convert the aliment, after its solution in the stomach, into more compounded and more solid materials; as into muscles, membranes, nerves, bones, and shells; at the same time that pleasurable sensation attends this activity of the system. The vascular actions of vegetables, which perform their digestion, sanguification, and secretion, converts the elements of air and water, or other aliments, which they receive from organized matter decomposing beneath the soil, into more compounded or more solid materials, as into vegetable vessels, muscles, membranes, nerves, and ligneous fibres; and a degree of pleasurable sensation must be supposed from the strongest analogy to attend this activity of their systems.

“ 3. Many of the materials, which have been thus produced by the digestion and secretion of organized beings, and have given pleasure in their production, have been slow in their decomposition after the death of the creature; as the shells of fish were originally thus formed, and were left at the bottom of the ocean, till they became wonderfully accumulated, were afterwards elevated by submarine fires, and constitute at this day the immense rocks and unmeasured strata of limestone, chalk, and marble.

“ The strata, which are incumbent on the calcareous ones, which consists of coals, sand, iron, clay, and marl, are all of them believed to have been originally the products chiefly of vegetable organization; whatever changes they have since undergone in the long progress of their decomposition, and that all those solid parts of the earth have been thus fabricated from their simpler elements by vegetable and by animal life, and



have given pleasure to those organized beings, which formed them, at the time of their production.

“ We hence acquire this sublime and interesting idea; that all the calcareous mountains in the world, and all the strata of clay, coal, marl, sand, and iron, which are incumbent on them, are MONUMENTS OF THE PAST FELICITY OF ORGANIZED NATURE!—AND CONSEQUENTLY OF THE BENEVOLENCE OF THE DIETY.”

The twentieth and last section contains a plan for disposing part of the vegetable system of Linnæus into more natural classes and orders. The author begins with observing, that the classes of plants, which are distinguished by the proportion or situation of the stamina, are more natural than those distinguished by their numbers, which are apt to vary by cultivation and other circumstances. He imagines, that the classical characters might be taken, 1. From the length of the filaments compared to that of the style, with some other concomitant circumstances; as first, where they are somewhat shorter than the style, as in the pendent bell-flowers of lily, fritillaria, campanula. Secondly, where the filaments are more than twice as short as the style, as in meadia, cyclamen, solanum, borago, fuschia. Or thirdly, where the filaments are more than twice as long as the style, and in the natural order of grasses.

“ Secondly, the unequal heights of the filaments at the first opening of the corol. In many flowers the inferior set of stamina rise up to the stigma, when the higher set have discharged their pollen. To these situations of the stamina may also be added their number, as in the two very natural classes of Linnæus, the didynamia and the tetradynamia. One of these might be termed two higher than two; the other four higher than two. To which might perhaps be added a third class, or many higher than many; as six above six in lithrum salicaria, five above five in lychnis.

“ Thirdly, the different insertions of the filaments, as first on the calyx, which principally distinguishes the class icosandria of Linnæus, and which thus approaches towards a natural class. Secondly, on the receptacle, which distinguishes the class polyandria of Linnæus, which also approaches toward a natural class. And thirdly, the insertion of the filaments alternately to the claws of the petals, and to the receptacle; which distinguishes a part of the natural order of the caryophyllei, in which the number of the stamina is very various.

“ Fourthly, the situation of the filaments in respect to each other;



other ; as first in the natural order of Linnæus termed stellatæ, or a part of the tetrandia monogynia ; the diverging filaments oppose each other, and might be termed cruciform, as in *galium*, *asperula*. Or secondly, where five diverging filaments assume the appearance of a star, as in the natural order of umbellatæ, or a part of pentandria digynia, and might have a name borrowed also from their number, like five-starred, or cinque-pointed, applied to the filaments, as mentioned above.

“ Fifthly, the adhesions of the filaments to each other at their base. This has given names to three classes of the Linnæan system, which approach to natural ones, under the term of brotherhoods ; as first, where the filaments all adhere at their base, as in the class monadelphica ; secondly, where they adhere in two sets, as in the class diadelphia ; and thirdly, where they adhere in many sets, as in the class polyadelphia.

“ Sixthly, the adhesions of the filaments to the corol, as where they adhere more than half their length to the internal part of it, as in many monopetalous flowers, as *primula*, *auricula* ; or where the filament arises from the petal, or where the anthers adhere to the margin of the petal, as in many of the natural order of scitamineæ, as observed in the *Prælect. in Ord. Natur.* a Giseke, p. 189.

“ Seventhly, where the filaments adhere to the style, as in the class gynandria, which approaches to a natural one.

“ Eighthly, the situations of the stamina not in the same flowers with the pistillum. This has also given names to three classes of the Linnæan system, monœcia, diœcia, polygamia.

“ Ninthly, the connexion of the anthers, which has given the name to the class syngenesia, which, excepting the last order, is a wonderfully extensive and natural class.

“ To these varieties of situation, proportion, and adhesion, of the filaments, may be added those of the anthers on their summits ; which to an attentive observer may perhaps be as numerous as those of the filaments, and to these may again be added the various forms of the filaments, as capillary, flat, wedgeform, spiral, feathered, &c. and also the various forms of the anthers, as oblong, globular, arrowy, angular, horned. All which are described in the *Philosophia Botanica*. And by an adoption of some of these separately or in conjunction for classical characters, I should hope that new classifications might be discovered instead of those, which are simply numerical. Which might be more natural ones, less subject to variation, easier to be distinguished from each other, and more similar in their good or bad qualities ; and might thus add  
to



to the great beauty and utility of the present wonderful arrangement of so many thousand vegetables in the Linnæan system."

In an Appendix we have an attempt to improve the drill-plough. The author observes, that the first experiment he tried to improve this valuable machine, was by enlarging the axis of Mr. Tull's seed-box into a wheel of sixteen inches diameter, with excavations in the rim to raise portions of the corn above the surface of that in the seed-box. But he found, to his surprise, the friction of the corn to be so much greater than expected, when six such large wheels were immersed in it, that an additional hopper became necessary to deliver the seed slowly into the seed-box, as in Mr. Cook's drill-plough; which, as it would add much to the intricacy of the machinery, and to the inaccuracy of the quantity of the seed delivered, occasioned him to relinquish that idea; and, after many designs and experiments to construct the machine here described, for which we must refer the reader to the work itself, as it is impossible to render the description intelligible without the plates.

After the copious extracts which we have given, it is almost unnecessary to express our opinion of this work. The reader will, no doubt, think with us, that it is not inferior, either in fancy, ingenuity, or useful facts, to the *Zoonomia*; and we have no doubt will be read with equal avidity.

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ART. VI. *Hygëia, a Series of Essays on Health; on a Plan entirely popular.* By THOMAS BEDDOES, M. D. N° I. 92 pages. December 1801. And N° II. 94 pages. January 1802. PHILLIPS, London. Price 2s. each Number.

THE preservation of health, and the prevention of disease, are objects which, though they are intimately connected with human happiness, do not receive the attention they merit. A love of sensuality on the one hand, and a want of information, or, what is worse, improper prejudices on the other, form stubborn obstacles to that judicious regard to health, which is as far removed from an inconsiderate neglect, as it is from punctilious and hypochondriacal watchfulness. With a view to impress upon the public mind the necessity and importance of a due attention to health, and the proper objects to which attention is to be directed, the learned author

has



has begun the work before us, which he promises to continue every month to the extent of twelve or sixteen numbers.

These Essays are not intended by the author as a compendious system of practice, for, "as general education unwisely excludes the knowledge of the human frame, the public at large must be totally incapable of profiting by writings, to which such knowledge is an indispensable pre-requisite." Hence he conceives that, "in the generality of houses, there cannot be an inmate more dangerous than the *Family Physician*; and that a system of *Domestic Medicine* must prove a constant source of domestic mischief."

The judgment of even those who have undergone the longest and most expensive education, being utterly unprepared for exerting itself with effect upon the subject of health, such notions are picked up as chance may offer: and what is thus lightly believed, is warmly recommended and blindly followed. This is a source of evil so copious, that whoever, by shewing the insufficiency of the grounds of common assent, could here introduce a prudent forbearance in thought and deed, would probably, in a single year, render his species a greater service, than any one has been happy enough to render it in a whole life.

In his choice of topics, the author principally holds "the middle and more opulent classes in view. There only do we find leisure for study; there only the necessary degree of intelligence; and the means of carrying good counsel fully into effect."

He thinks it better, on a subject of this kind, to fix the standard of capacity "too low than too high, there being no comparison between the inconvenience to the intelligent from a few superfluous pages, and the evil arising to others, from deficiency of elucidation;" and he intends his Essays to be intelligible "to all who have literature enough for the perusal of the favourite moral essays of our language."

The first Essay is on Personal Prudence, and on Prejudices respecting Health, addressed to Heads of Families, Inhabitants of the British Isles.

The author begins by recommending the serious consideration of the health of their offspring to the attention of those to whom this Essay is addressed. The human body, composed of parts highly complicated, requires and calls for as much attention as a curious piece of machinery; and yet, while the possessor of the latter spares no pains "till sufficiently



ciently master of its construction, to judge of its state, the usages of life, as they have come down to us, proceed upon the supposition, that the human machine is made of materials so impassive, and so firmly put together, as to render superfluous that insight, without which vigilance is blind."

Every one assents to the advantages of health; but it is one thing, the author properly observes, "to acknowledge a principle upon a formal appeal, and another to be impressed with a sense of its importance, such as shall bring it before the imagination in its relation and bearings, with vivacity enough to determine our proceedings on the spot, and without the delay of deliberation."

"To bear in the mouth, that *health is the first of blessings*, not only answers no purpose, but tends to create that sort of hypocrisy, or self-deceit, which substitutes the repetition of a maxim for its observance."

What the author particularly desires is, "that seasonable care should be taken to provide each individual with a set of ideas, exhibiting the precise relation in which his system, and the several organs of which it is compounded, stand to external agents, particularly to those with which he is likely to come most in contact: that these sets of ideas be so placed in his head, that he may refer to them with as little difficulty as to the watch he wears in his pocket: and that as by the one he adjusts his business to his time, so by the other he may be always able to accommodate his actions to his powers." He conceives this a necessary piece of education, and thinks its practicability demonstrated by the facility with which various lessons of inferior consequence are received, such as "on the improvement of fortune, the choice of connexions, the maintenance of character, the arts of captivating vanity, and cajoling weakness."

"In forming the inclinations, so much pains are taken (and very justly, as far as independence is concerned) to instil a lively regard to loss and gain, that one class of facts might have been expected to obtain more notice. For instances are by no means rare, where total prevention of success in life depends upon certain consequences left behind by disease, even where they do not involve the smallest degree of physical inability. This misfortune is too often accompanied, or speedily followed, by the destruction of internal peace; so that, by one and the same cruel operation, the frail edifice of our being loses support from within, just when it is most needed from the failure of that from without."



This circumstance, as well as the difference of impression received from the bloom of health, or the appearance or vestiges of disease, is strikingly illustrated by the following anecdote: "The late professor, J. George Busch, whose memory the city of Hamburg is at this moment employed in honouring, tells of his having had the small-pox at nine years old, and though they were attended with no imminent danger, they left him badly marked. 'I was afterwards informed, that 'previously to this disorder I had a comely appearance. For 'myself, I had never attended to the point; but one thing I 'know well; after this time I perceived that those who visited 'my parents, universally withheld from me that kindness of 'attention, which with a child is the first motive to render 'himself agreeable, though they shewed it to my well-looking 'brothers and sisters. All the pranks that I, poor pock-pitted 'boy, to whose feet no dancing-master had given the right 'position, or drawn the head from between the shoulders, 'played in my vivacity, might indeed have been performed with 'an ill grace.

" "This too, I should observe, was the period when the 'chief art of education consisted in hard words and blows. 'On me reproaches rained from all quarters. When my pa- 'rents, who alone treated me with any degree of sense, car- 'ried me to Haarburg, my grandmother and a brisk grand- 'aunt so maltreated poor George, that my father and mother 'were extremely unwilling I should repeat the visit. In my 'grandfather's favour I stood all the higher, for he was stock- 'blind, so could not judge of me by my exterior.' From his subsequent history, particularly from the hypochondriacal complaint into which he afterwards fell, it should seem that this man, active, wise, and useful, as he proved, never entirely recovered of the wound inflicted on his tender mind.

" Unhappy feelings are said to spring from the consciousness of deformity. If the remark be just, these feelings should," the author thinks, "be ascribed to slight or insult, rather than, as they commonly are, to envy.

" Unkindness is the natural provocative of malignity," and "wherever young persons, that have unwarily been suffered to deviate into crookedness of growth, are kindly treated, they do not, however, he is sure, yield in temper any more than in talents to those of more erect figure."

When the study of our common nature shall have assumed its proper place, corporeal blemishes, the author thinks, will  
seldom



seldom take place; and when they do, will not be viewed with disgust.

The plan which the author recommends as most likely to disseminate a sufficient portion of knowledge, as a basis for that general acquaintance with the physiology and pathology of the body, which he thinks a necessary part of a good education, is to establish, in every one of our considerable towns, lectures for a *mixed* audience, on select subjects of *anatomy*. The practicability of the plan was evidenced by a successful experiment at Bristol, of which an account was some time ago given by the author in an introductory lecture. Much useful knowledge on the subject, he thinks, may even be gained from books alone; and though he cannot recommend any one work in the English language which comprises all that is necessary, he enumerates the following, of which he thinks select portions may be read with much advantage by the common reader, viz. The Compendium of Anatomy, 2 vols. octavo, *Davies*; Mr. John Bell's unfinished Anatomy of the human Body, *Cadell*; Sæmmerring de Corporis humani Fabricâ; Fyfe's Compendium of Anatomy, in three volumes; Baillie's Morbid Anatomy.

The author by no means conceives, that a due acquaintance with the circumstances in which health is concerned, will have the effect of "hanging a naked sword by a single hair over the head during the repast of life." He is decidedly of opinion, that our fears will soon diminish, and in time be dispelled by a sufficient knowledge of the subject.

Health is always an object of extreme concern with affectionate parents, and is much attended to in the choice of a place of education, and the persons to whom this is intrusted. The author, however, fears, that much disadvantage arises to children from the ignorance of their parents, of many of the inconveniences attendant upon large schools, and is of opinion, that fatal diseases are frequently produced by very slight causes, which almost escape notice. Puny and delicate children, and those "who have nearly the same title to an hereditary disorder as to a patrimony," frequently fall victims to improper management, and a total disregard to the differences of constitution. "For children," the author is of opinion, "the frequent society of children alone is nearly the worst possible society: it should be avoided equally for the sake of manners, morals, intellect, and health. In their memorials," says he, "I find no circumstance so much in common to eminent persons, as familiar access, during childhood,



hood, to judicious and conversible adults." And he is convinced, "that an institution would, at this moment, find support, where glaring absurdities and ruinous abuses should be avoided, where the instructors should be companions to their pupils, and science, usefully active habits, good principles, and personal prudence, should obtain their due regard. Experience has taught him, that a much greater proficiency in ancient literature than usually takes place at schools, is compatible with all these objects.

A sense of the value of health is not innate; to be understood, it ought, therefore, to be taught; and it appears to the author, that to form a moral sense, for so the ready habit of certain artificial sentiments has been metaphorically styled, is not more practicable in itself, than to form a *sense* for health. Nor does he think that excessive and reprehensible caution is "likely to be the lot of any one brought up with the knowledge of things hurtful, and the practice of that knowledge."

THE second Essay is on personal Imprudence, active and passive; on the Incentives to it; on its Effects and usual Origin. The author precedes it by a Dedication to the Clergy, in which he entreats them to make use of that information which they possess, and those opportunities and that influence which they enjoy, in order to call the attention of the public to a proper regard to the inestimable blessings of health. He disapproves, however, in strong terms, of their uniting with their pastoral office, the duties of a profession which requires an attention and study to be conversant with it, incompatible with their previous habits of life. He also expresses an assurance, that if the clergy would "take the part of the thoughtless against themselves," and of competent integrity, against meddling imbecility and obtrusive imposture, that they would soon check a scandalous abuse, which will, at one time or other, bring dishonour upon the cloth, that of the sanctions which are so frequently given by reverend names to the tales of fraud which so frequently appear in the advertisements of empiricism.

In his Essay, the author sets out with condemning the domestic use of prescriptions, which bear so high a character among individuals, who, from motives of vanity, or of ill-judged benevolence, are continually obtruding advice to the sick. Such persons may, without danger, carry on various objects of domestic manufacture, and may, with advantage, "tend their sick without nurses by profession;" but they  
2 should

should be careful how far they take upon themselves the "office of a doctor," and the exercise of a profession, in which a person "has infinitely less chance of becoming an adept without regular study, than he has of becoming rich without regular industry."

Books of domestic medical instruction frequently issue from the press, but, besides that they are for the most part written by bad hands, (for he knows no popular treatise on medicine has ever been attempted by any experienced physician, whose judgment has been approved by other productions,) they must, from the "nature of things and persons, be either nugatory or productive of disastrous consequences." This proposition the author endeavours to prove, by begging "the reader to consider the power and province of mere rules in practical affairs of the easiest kind. No one has, I suppose, yet come forward with pretensions to teach the coarsest handicraft by a book; but in the tumult of literary projects amid which we live, scarce any absurdity being impossible, let us imagine some adventurer, sufficiently intoxicated to undertake to communicate the capacity for exercising one of our humblest and most useful trades, without apprenticeship, by a tract on *domestic shoemaking*. Should any one, after studying this tract, conceit himself qualified to handle the awl and the paring-knife, I leave it to be imagined by the reader, how unmercifully the leather would be pricked and slashed, and what would be the condition of the poor toes, condemned to be lodged in the receptacle prepared by these learned hands? Does common sense spurn at the idea of efficacious instruction in such an art by such means? Are the qualities, then, of leather more complicated than those of the living body? Does the art of managing the former to most advantage require a long apprenticeship, and not that of managing the latter? Are the tools that lie within the compass of the shoemaker's bench, more easy to employ properly than the articles of the *materia medica*? I see, indeed, one essential difference; the incompetent mechanic will soon be marked; no clumsy workmanship of his can pass; whereas, in medicine, bunglers may go on, I know not how long, without disgrace."

"The almost total impossibility of ascertaining some complaints, unless the discriminating phenomena are pointed out in nature; the frequent necessity of accurately distinguishing the relative conditions of a given action, as of the pulse, or of a given organ, as of the lungs; the darkness in which those must wander, who are destitute of the light of anatomy; the changes,



changes, even to an opposite state, which the system undergoes during a course of symptoms, referred to the same denomination; the transition, required by this as well as by other causes, from one mode of treatment to another, are among the difficulties which, upon the present average of apprehension in the most enlightened people of the globe, bid defiance to any mortal talents for exposition."

Advice may be stated to be harmless; but the author conceives, that if it only arrest the rescuing hand, and substitute watergruel for the proper and active means of recovery, it does a great deal of mischief.

Study and experience are necessary to qualify a man for practising medicine, and even then the imperfection of his profession is an incontrovertible fact; but the author takes pains in impressing upon the mind of the reader, from this fact, the additional necessity of having recourse to the well-informed, in preference to the ignorant and uneducated. "Who that wants to raise a load, and doubts the sufficiency of his greatest power, goes to work with a power much inferior?"

The accidental failure of a medicine, or an operation, is frequently proclaimed as arising from a reprehensible error in the medical practitioner, though the employment of the medicine, or the performance of the operation, had the strongest recommendations of probability in their favour. The exhibition of a poison is frequently represented as idle and injurious, whereas it ought to be considered, that "between what are called poisons, and what are called medicines, there exists no fundamental difference; nor can they be separated by any line, drawn either by theory or practice. The one and the other are substances, which, in small quantities, produce strong effects; and this character distinguishes both, accurately enough for every useful purpose, from food." Much even depends on the use of the most common agent for the performance of salutary purposes. "Thus the food that does but support, the temperature that does but cherish, the wine that but seems to enliven the healthy, may aggravate a precarious into a fatal distemper."

The general habits of life the author considers as unfavourable to the preservation of health; fashions frequently alter, but without regard to the mode of life most suitable to the permanent enjoyment of comfort and tranquillity. "Devotion to fashion induces a disposition that excludes any proper culture of the best gifts of Nature, and all effectual care of the compages of bodily organs. Without direct injury to these, it seems impossible



possible to live in the fret and fume of fashion. Men, not soulbound by the halter of necessity to the rack and manger, can hardly depend upon a healthy flow of mental complacency from any other source, than from a multifarious stock of ideas, which, in a situation unfavourable to the acquisition of fresh ones, they can employ themselves in arranging, or which they can interweave with impressions, when they have the good fortune to discover a new world of objects; but it is upon an endless variety of ephemeral appendages to himself, to his retinue, or his mansion, that the heart of him who means to figure in the beau monde is eternally set. The passion with which these things are pursued is, I am sure, as insatiable as avarice, and, I think, more tormenting. What the miser acquires, however he may thirst for more, *lucro adponit*, he at least stores up as solid and durable treasure; but, in the mart of the mode, every new pattern makes all the old purchases worthless."

It is of extreme importance, the author is of opinion, for the purpose of preventing personal imprudence, "*to begin with inspiring early self-reverence;*" and that this may readily be effected, he considers as sufficiently proved by the facility with which various strong ideas are originally acquired, such as those which refer a particular sanctity to particular places; the various absurd customs of savage nations; the enthusiasm of martyrdom; and even various rituals of the Christian church.

The author concludes his second Essay in the following manner: "If prodigious, unnatural, destructive doctrines have easily made their way in the world, shall comprehensible, congenial, salutary truth fail to be received? Our children plunge headlong into vice and perish; our populace are debauched; why, then, do we not make haste to explain to them, in intelligible language, the laws by which the Creator has attached certain punishments to certain crimes against self? Tricks that decoy for the moment we may relinquish to the juggler, the mountebank, and the fanatic. We need but be perspicuous and impressive. If no crowds, drunk with enthusiasm, reel to our standard, converts will incessantly come over with deliberate speed. We are the apostles of a faith, among whose disciples there never will be found one apostate; we aim at the gratification of every heart; we teach but the fulfilment of universal desire, how all may dwell in the gardens of pleasure with least hazard of being stung by scorpions that lie



lie hid in their bowers, or of being cut off by poisons that mimic the fruits."

The learned author of the Essays which we have now laid before our readers deserves much credit for the zeal and ability shewn by him in his endeavours to call the public attention to a proper regard to the blessings of health, and to remove from them prejudices, which, though ill-founded and injudicious, have nevertheless a very firm hold on the mind. We are sensible of the difficulties of the task, and have a pleasure in acknowledging, that he has placed many particulars in a very striking point of view, and in a way very likely to make the impression which he desires; though we are of opinion, that a more easy, and, in general, a less abstract style, would have been better adapted to the greater mass of readers. His Dedication to the Clergy will have no tendency to conciliate their favour, or obtain their co-operation; and the allusions, which he makes to matters of religion might as well have been omitted, as they will rather have a bad than a good effect in the cause for which he is contending, inasmuch as they may prejudice many individuals against the work, who might otherwise be inclined to attend to it.

#### FOREIGN BOOKS.

ART. VII. *Recherches historiques et médicales sur la Vaccine: i. e. Historical and medical Inquiries respecting the Cow-pox.* With engraved plates, coloured by H. M. HUSSON. Octavo. 2½ livres.

THE author of this work has here collected observations on the cow-pox, made either by the English, French, or Germans, so as to present us with a complete treatise of whatever has been said or done relative to that kind of inoculation. His work is divided into three parts. In the first he goes back to the origin of the disorder on the cows of Gloucestershire, and proves that it was known in other countries besides England. He presumes that it did not appear on the cows, but in consequence of the *savart*, a disorder peculiar to horses. In the second part he presents a very exact description of the disorder; and an engraving annexed to the work presents a view of it in every state of its progress. The author teaches how to distinguish the true from the spurious *vaccine*, and how to determine

determine the proper age, circumstances, season, and mode of inoculation. In the third he answers some objections which have been urged against this new method. The author's reasonings evince a considerable degree of medical information.

[*Journ. Gen. de la Lit. de Franç. N° V. 9th Year.*]

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ART. VIII. *Le Livre des Mères et des Nourrices, &c. : i. e. The Mother and Nurse's Instructor ; or Practical Instruction for the Preservation of Infants.* By Citizen SALMADE, Physician. Duodecimo. 1½ livres.

IX. *Instruction pratique sur l'Inoculation de la Petite-vérole, &c. : i. e. Practical Instruction for Inoculation for the Small-pox, with an Account of the Nature and Treatment of the natural Small-pox.* 8 livres. By the same Author.

THESE two works seem to be connected with each other. In the first he treats of the care necessary towards the newborn infant, and of the maladies to which it is exposed during the first years of life. In the second he considers the natural small-pox, and the common and vaccine inoculations.

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ART. X. *Traité historique et pratique de la Vaccine, &c. : i. e. An historical and practical Treatise on the Cow-pox ; containing an Account and the results of Experiments made thereon in Europe to this Day ; with a View of the Advantages of the Cow-pox Inoculation, and of the Objections which have been opposed to it.* By Citizen MOREAU (de la Sarthe). Octavo. 4 livres.

THE author here collects into an elementary treatise, a vast quantity of scattered materials, and exposes all the facts relative to the origin, the propagation, and practice of the cow-pox inoculation. The best method of appreciating with impartiality the advantages of this new preservative against the small-pox is certainly that which the author has chosen, by presenting, in a connected view, all the medical facts, all the necessary proofs ; by collecting all the practical observations, and thus presenting every physician or surgeon who inoculates with a view of the principal events arising from the experiments



riments of his colleagues, and of the numerous phenomena which different circumstances have produced.

The work is divided into two parts: one contains the historical, the other the physiological and medical part. The first of these is divided into five books: 1. The History of the Discovery, Confirmation, and Propagation of the Cow-pox—2. Confirmation and happy Application of the Discovery, by *Jenner* in England—3. Inquiries and Experiments of *Jenner* and *Pearson*, from whence many Facts result, which extend and develop the Discovery of the Cow-pox Inoculation—4. Experiments of *Woodville*, and additional Observations of *Pearson*, on some Eruptions which are complicated with this Inoculation, and have in general followed the Developement and happy Application of the Discovery of *Jenner* in England—5. The Propagation of the *Vaccine* on the Continent.

The second part is divided into four books, which contain, 1. Considerations respecting the vaccine Inoculation—2. Circumstances attending and ulterior to the Inoculation—3. The Advantages of the vaccine Inoculation—and, 4. Ulterior Views and Questions relative to the different Experiments, to give a greater medical Extension to the vaccine Inoculation.

[*Journ. Gen. de la Lit. de Franç. N° VI. 9th Year.*

ART. XI. *Observations sur la Maladie appelée Peste, &c.: i. e. Observations on the Disorder called the Plague, the dysenteric Flux, the Ophthalmia of Egypt, and the Means of preventing these Disorders; with some Ideas on the yellow Fever of Cadix, and the Plan of an Hospital for the Treatment of epidemical and contagious Disorders.* By D. ASSALINE. Duodecimo. 3 livres.

OUR author presents us with an exact topography of Egypt, and of the temperature of the air in the years 6 and 7. He afterwards describes the symptoms of the disorder called the plague, and which, in these two years, had caused some ravages in the army of the East. He assures us, that the same disorder appears annually along the coasts of the Archipelago, and from Alexandria to Constantinople, where it is known by the name of *plague*, or contagion. He observes on this occasion, that the persons making these remarks have but too well followed the advice they have given to others, to fly from the places and persons infected, which has prevented them from knowing



knowing the real causes of these kinds of disorders. He concludes the observations he has had occasion to make, by determining, that the disorder which has reigned in Egypt is not contagious in the strict sense of that word; although he agrees that the morbid matter is sufficiently volatile to be communicated by the breath of the diseased persons, and to escape by the transpirable pores.

Assaline's work seems to us important in its object, and useful, by a reunion of the facts which he presents to us, as well as by his manner of comparing them, and may contribute to throw light on an affair so very interesting to mankind.

ART. XII. *Institutions de Medicine, &c.*: i. e. *Institutes of Medicine; or, an Exposition of the Theory and Practice of that Science; extracted from ancient and modern Authors; a didactic Work, containing the general Information necessary to those who are intended for the Profession.* By PH. PETIT RADIL. 2 vols. octavo. 12 livres.

THESE Institutes present a complete course of medicine, designed for the instruction of students, and approved by the Commissaries of the Faculty of Medicine, nominated by that Faculty to render them an account of the work. The author divides his work into four parts, Physiology, *Hygiène*, Pathology, and Therapeutics. The first is subdivided according to the manner of the ancients into six sections, which treat of the elements, considered as constituent parts of the animal organization; of the organized solids, distinguished into fibrous and laminous; of the animal humours, as resulting from an exact analysis; of the spirits and animal fluids; of the various functions of the human body, &c. The second part offers every thing which has any connexion with the six things called non-naturals, which are the air, meat, drink, sleep, waking, motion, and repose, &c. The pathology presents the art in a view truly medical. It is here divided into four sections, which are, symptomatology, or the history of symptoms; nosology, or the knowledge of morbid affections, derived from the reunion of many simple symptoms; ætiology, or that of the causes of disorders; and semeiology, or the doctrine of signs. The author also adds *metabolology*, which treats of the conversion of one disorder into another, and of the different changes which succeed in their course. The therapeutics conclude the work. The four divisions of this

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part treat of the regimen respecting the employment of the six non-naturals; of the pharmaceutical remedies; of surgical operations; and of the employment of those means which the author has pointed out to meet the general indications.

The work is clear and methodical; it contains all that a student need be informed of before he proceeds to the reading of books of practice. The report of the Commissaries encouraged the Faculty of Medicine to patronize the work, and it appears under their auspices. The Faculty adopted it in the year 1791; but various circumstances having prevented the author from publishing it sooner, he has employed the time in bringing it to perfection, by availing himself of the information he has since procured.

[*Journ. Gen. de la Lit. Franç. N° VI. 9th Year.*

ART. XIII. *Constitution epidemique de Grenoble, &c.: i.e.*

*The epidemical Constitution of Grenoble, during the three last Months of the Year 7, and the six first Months of the Year 8; with an Account of the Disorders which have preceded and followed it. Duodecimo. 2½ livres.*

THE interest which this work excites is not confined to the country in which it has been written, for the disease of which it treats depends on circumstances which may generate it any where, and its cause arises from a concurrence of events which may be renewed in any place and at any time. The author has given the character of the diseases of the years 2, 3, 4, 5, and 6, and by that his work participates of the same kind of interest, which Citizen Pinel has inspired in his treatise on the manie. The description of these disorders, and that of the treatment of the epidemical fever which prevailed in the years 7 and 8, are followed by three dissertations, which, although detached, tend to the same end. They contain information useful for practitioners. In the third, which contains an examination of the system of Brown, the author shews, that with all the appearance of a brilliant theory, this system cannot be supported; neither under the severe examination of the philosopher, nor the more rigorous experiment of the practitioner. This work will be generally instructive; it presents successive details relative to events which interest the physician. In studying the principles of the author, we are fully convinced of the superiority acquired by a very extensive practice, a long



long experience, and a profound study of good works, over the easy merit of imagining ingenious theories. The author is Citizen Laugier.

[*Journ. Gen. de la Lit. Franç. N° VI. Year 9.*

ART. XIV. *Medizinische Ephemeriden von Berlin*: i. e. *The Berlin Ephemeris of Medicine*. Published by L. FORMEY. Vol. I. 2d, 3d, and 4th Numbers. Octavo. Berlin.

THE second number of this periodical work begins with meteorological observations made during the year 1798; these are accompanied with remarks on the season in general, and barometrical and thermometrical tables; then come some articles under the title of legal medicine. The author afterwards gives some account of the plague, which appeared in the Russian part of Volhynia, taken from the report of Dr. Kastner, a Prussian physician. The other articles of this number are, 1. A Memoir on the Means of destroying the Small-pox—2. A Report from the College of Medicine on a pretended Poison—3. History of the Colica pictonum, which prevailed at Warsaw from the Month of October 1798 to that of January 1799—4. On some nervous Affections during Pregnancy, by Dr. Nicuman—5. Efficacious Remedy against the solitary Worm.

The third number presents the six following articles: 1. On the Influenza of the Year 1800, a Report of the College of Medicine at Warsaw—2. Another Report of the College of Medicine at Posen, on the Epizooty during the Year 1799—3. A Report of Experiments made in the Lazaretto of Charity at Berlin, with the antifebrile Remedies of REICH—4. A Report of the College of Medicine at Berlin on a Child found dead—5. On the Means of knowing, by Dissection, if the Lungs have really respired, or if the Air has been blown in after Death—The 6th Memoir contains Instructions for the Physicians of the Prussian Dominions concerning Certificates to be delivered to the Functionaries who wish to make Use of mineral Waters in foreign Parts.

In the fourth number we find a variety of memoirs interesting in many respects: 1. Experiments made on the Lungs, with some Remarks on the *Vagitus uterinus*, by Metzger—2. Ideas on the History and Treatment of the *Plica polonica*, by Küster—3. Observations on the same Disorder, which manifested itself in the Circle of Stargard, by Dr. Schulze—

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4. A Report of the College of Medicine, on the Means of preventing the Progress of that Disorder in the Prussian States—5. Some surgical Observations.

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ART. XV. *Magazin der theoretischen und praktischen Heilkunde: i. e. Magazine of theoretical and practical Medicine.* By ROESCHLAUB. Vol. V. 1st Number. Octavo. Frankfort.

THE articles in this number are, 1. The Connexions which exist between the Theory and Practice of Physic, by L . . . .—2. Some Reflections on Apoplexy, by Dr. J. N. Thomann—3. The sixth continuation of Observations on the Objections made against the Theory of excitation, by the *Editor*—4. Explanation of the Ideas expressed by the words *sharp, sharpened, irritant, irritation*, and other analogous words relative to the humours, by the *Editor*.

ART. XVI. *Annalen der neusten Englischen und Französischen Chirurgie und Geburtshülfe, &c.: i. e. Annals of Surgery and Midwifery, extracted from French and English Works.* By BERNHART, SCHREGER, and HARLES. Vol. I. 3d Number. Octavo. Erlangen.

MOST of the pieces in this number have been taken from French works, except a memoir on a new instrument for drawing teeth, by *W. Dyer* and two others; on particular cases of lying-in, by *W. Wilson* and *M. Forestier*. The articles translated from the French are, A Description of a new Trepan; Observations on the Fracture of the Clavicle; two Memoirs of Citizen *Bichat*; Observations on the Cæsarean Operation, by *Millot*; on the Dissolution of the Stone in the Bladder, by means of Injections, by *Fourcroy*, &c.

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ART. XVII. *Journal für die Chirurgie, Arzneikunde und Geburtshulfe: i. e. Journal of Surgery, Medicine, and Midwifery.* By C. L. MURSENA. Vol. I. 2d Number. Octavo. With two plates. Berlin.

**M**OST of these memoirs are new, and hitherto unpublished; among others we remark one of Dr. *Jenisch*, on the good effects of emetics in disorders of the brain; one of *M. Schak*, on the regeneration of the bone of the superior arm; and another of the same author on lymphatic tumours; some observations on a wound of the head cured by the trepan, by Dr. *Ollenroth*; and many other cases of surgical operations.  
[*Journ. Gen. de la Lit. Etrang.* N° X. Year 9.]

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ART. XVIII. *Vollständige Uebersicht der Geschichte der Medizin, &c.: i. e. A general Sketch of the History of Medicine, in the Form of Tables.* By E. L. AUGUSTIN. Quarto. Berlin.

**A** WORK destined for those who follow the course of medicine read by the author. The tables on one side present the most interesting events in medicine during each year, and on the other the works which apply to these events are pointed out. These tables, at the same time, serve as a synopsis of an historical and critical sketch of all the systems and theories which have divided the opinions of physicians, and which the author intends to publish.

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ART. XIX. *Archiv für die medizinische Landerkunde: i. e. Archives of the medical Knowledge of different Countries.* Vol. I. N° II. Octavo. Cobourg.

**T**HIS number contains, 1. A medico-topographical Account of Greenland, extracted from the Description of that country, by *Crantz*—2. Description of the Baths of Toeplitz, Carlsbad, and Fraunzenbrunn near Egra, from *Hoiser*—3. Medical Topography of Leipsic, from *Kilian*; of the City of Naumbourg, from *Drechster*; and of Gotha, from *Klebe*.

[*Journ. Gen. de la Lit. Etrang.* N° X. 9th Year.]



ART. XX. *G. de la Faye, Chirurgi quondam Parisiensis, &c. Instrumentarum chirurgicum, quod servavit, descripsit, et auxit.* D. J. B. SIEBOLD. Vol. I. Folio, with 45 Plates. Wursburg.

THOSE who study anatomy and surgery will find in this work an exact description and representation of the instruments they must make use of. The designs are distinct, and scrupulously exact, neatly and carefully engraved; and the price of the work reasonable, considering the fine execution of the text and plates. The success of the first volume will determine the publication of the second, of which the designs are completed, and will comprehend the most modern instruments of surgery, anatomy, and midwifery. De la Faye at first designed this collection only for his own use; but having afterwards determined to publish it, he had them drawn and engraved by the best artists. His death prevented the publication, and his heirs found themselves in possession of forty-five engraved plates, but without any text to explain them. By a happy circumstance these plates fell into the hands of M. Siebold, counsellor and professor at Würzburg, the father of the editor, who immediately determined to complete the work, and afterwards employed his son to execute it. Each figure is accompanied by an explanation in German and Latin, with the French names. The second volume will contain a systematic index, to facilitate the finding any article.

[*Journ. Gen. de la Lit. Etrang. N° VIII. 9th Year.*

ART. XXI. *Journal für die Chirurgie Geburtshülfe und gerichtliche Arzneikunde: i.e. A Journal of Surgery, Midwifery, and legal Medicine.* Published by J. C. LODER. Vol. III. Part I. Jena.

THIS number contains twelve memoirs on different subjects of medicine and surgery. Among the different operations of surgery described in this number, there are many which have reference to uncommon cases, and which may assist professional men to whom similar cases may occur.

[*Journ. Gen. de la Lit. Etrang. N° VIII. 9th Year.*



ART. XXII. *Handbuch der Toxicologie, oder der Lehre von den Giften und Gegengiften: i. e. Manual of Toxicology, or the Doctrine of Poisons and their Antidotes, according to the Principles of Brown and modern Chemists.* By Jos. FRANK. Octavo. Vienna.

THIS is only the outlines of a work which the author proposes to publish on this subject. In this he treats only of the principal poisons; yet the work contains some very extensive and interesting details on the different sorts of poisonous airs. The author divides his poisons, according to the manners in which they act, into three classes, which form as many sections of the work, viz. *poisons* which are swallowed, *poisons* applied exteriorly, and *poisons* which are inhaled under the form of vapour, or of gas, in an invisible manner. In each of these sections he exposes the symptoms and treatments of the different sorts of poisons.

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ART. XXIII. *Der Æsculap für Bad und Brunneng Afte: i. e. The Æsculapius for those who visit the mineral Waters.* By K. A. ZWIERLEIN. Octavo. Vienna.

THE author, who is a physician at the mineral waters of Brukenan, thought he observed that persons often took those waters without knowing them, or how to appreciate their effects. He therefore gives, first, an alphabetical account of the different mineral waters, their geographical situation, and their principal constituent parts. To the article of the most celebrated mineral waters he joins a table of the diseases which have been cured by their means. The work terminates with some memoirs, and among them that which treats of the errors and prejudices that exist respecting the use and virtues of these waters deserves to be noticed. The work may be useful to those who frequent those waters, and particularly those of Brukenan in the bishopric of Falda.



ART. XXIV. *Magazin für gemeinnützige Arzneikunde und Medizinische policey*: i.e. *A Magazine of popular and legal Medicine*. By J. H. RAHN. Octavo. N<sup>o</sup> I. 12 sheets. Zurich.

THE troubles of Swisserland had interrupted the author's periodical works, who is now going to continue them under a new title. The merit of this number may be estimated by naming the matters it contains: 1. Project for a Law containing a Plan of medical Police for the Helvetic Republic—2. On the Duty of Government to assist those born deaf and dumb by good Instruction—3. Abridged Instruction for Midwives and Parents, with some practical Advice and Observations on the Prejudices which still exist in the Art of Midwifery—4. On the Disorders of horned Cattle, by *Plonquet*—5. Consequences of the Bite of a mad Dog observed in a Horse—6. Case of a young Man who died of the Bite of a mad Cat, by *D. Stræhl*—7. Instructions for Persons bit by mad Dogs, by *Tissot*—8. History of an Epizootic among the Sheep and Hogs of the Canton of Wallis; in three districts one thousand two hundred and ninety-four Head of Cattle died in these Districts alone—9. A Report on some epidemical Diseases, particularly on the Small-pox which reigned in 1758 in different Cantons of Swisserland.—A curate in the country, on this occasion, wrote to the author, “that the peasants put their sick children on heated stoves, to keep them very hot; and that they prayed for death as the only good which could attend them in that disastrous state.”

[*Journ. Gen. de la Lit. Etrang.* N<sup>o</sup> VIII. 9th Year.

ART. XXV. *Journal für Medecin, Chirurgie, und Geberts-hülfe*: i.e. *Journal of Medicine, Surgery, and Midwifery*. By J. F. S. POSEWITZ. N<sup>os</sup> I. and II. Octavo. Hadamar.

THIS Journal promises much for the progress of medicine and surgery; we may form an idea of it from a view of the contents of the two first numbers: 1. The Theory of Brown's System of Irritability reduced into Tables—2. On a violent Inflammation of the Brain with Extravasation, by *Dr. Baumer*—3. Etiological Developements of the Manifestation of the Sensorium in the Fœtus, and of an Infant immediately after its Birth until the twenty-first Day, by the *Editor*—4. Some medico-surgical Observations, by *Dr. Stoll*—5. Observations and



and Treatment of a Convulsion in the Thorax, by Dr. *Doerel*—6. On an Exanthema, by *J. J. Schmede*—7. On the Treatment of Wounds which penetrate the Teguments and Bones, by *Beaumer*—8. Doubts on the Existence and Non-existence of pathological Dentition, by *Wendelstadt*—9. On Madness, by the *Editor*—10. Case of a Man who dropped down dead without any exterior Marks of Violence, by Dr. *Müller*—11. Examination of the Question, If the Symptoms which appear in Wounds of the Head arise from the Action of the Liver? or, If the Brain be affected in an idiopathic Manner? by the same—12. Principles to resolve the Question, If we may regard Dentition as a Cause of the particular Disorders among Children during their two first years? by the *Editor*:

[*Journ. Gen. de la Lit. Etrang. N° VIII. 9th Year.*

ART. XXVI. *A Ypey Introductio in Materiam Medicum.*  
Octavo. Leyden.

THE author of this work has been less solicitous to shew his erudition than to give useful lessons. Although he confines himself to medical subjects, yet he often mixes some pathological observations; and his remarks being founded on experience, merit every attention from philosophical physicians. His descriptions of pharmaceutical plants are very exact, and their characters so clearly determined, as to prevent any mistake, or any falsification on the part of the druggists. Mistakes which are fatal, of which he cites an example of the celebrated Cullen, who was himself deceived in ordering too large a drop of a certain drug, which he believed to be natural and true. The remedies called *specific* are here treated of with a circumspection which ought to guide every physician who is jealous of his reputation, and every observer who is attentive to the effects of substances employed as medicines. The author has rendered an essential service by the publication of a work equally rich in judicious and practical observations.

[*Journ. Gen. de la Lit. Etrang. N° V. 9th Year.*



ART. XXVII. *Genius der Gesundheit und des Lebens: i.e. The Genius of Health and Life; a Pocket-book for the Use of Physicians, for the Year 1801.* By D. E. J. KILIAN. Octavo. Leipsic.

THE author is known by many popular medical works, and designed this to serve as a continuation of the almanack formerly published by M. Gruner, whose intention was to spread medical knowledge among those who did not make it their particular study. The memoirs which compose this work are four: 1. A new general Theory of theoretical and practical Medicine—2. Sketch of a domestic Materia Medica—3. Different dietetic Observations—4. Two Observations on the Danger of bathing in Rivers, and on the salutary Effects of *Bischoff* (a liquor composed of oranges, red wine, and sugar) in a Cough attended with Expectoration of Blood.

[*Journ. Gen. de la Lit. Etrang. N° V. 9th Year.*

ART. XXVIII. *Tachenbuch für die Gesundheit: i.e. The Pocket-book of Health for the Year 1801.* By F. HILDEBRAND. Octavo. Erlangen.

A PUBLICATION of the same kind as the foregoing. The author has made himself known by several works on medicine and chemistry. He here gives some general rules for the preservation of health divided into ten chapters, which treat of the following subjects: 1. Of the general Influences to which Men are subject; of the Air—2. Of Dryness and Humidity—3. Of Heat and Cold—4. Of Meat and Drink—5. Of Evacuations—6. Of Clothing—7. Of the Situation of the Body—8. Of Sleep—9. Of the Motion of the Body—10. Of the Affections of the Mind. The work presents an useful manual to those who are interested in the preservation of their health. [*Journ. Gen. de la Lit. Etrang. N° V. 9th Year.*

ART. XXIX. *Algemeine Medixinische Annalen: i.e. Annals of Medicine for December 1800.* Quarto. Altenbury.

ART. XXX. *Algemeine Medixinische Annalen: i.e. General Annals of Medicine, for February 1801.* Quarto. Altenbury.

THIS journal contains some detached pieces and memoirs on many subjects of medicine and surgery, drawn from different



ferent works, and from periodical publications, both of Germany and elsewhere. In this number are: *Observations on the Membranes*, by Bichat—*Some Remarks on the Means employed by the Eye to view distant Objects*, proposed by Munro—*Some Reflections on Disorders of the Muscles of the Eye*, by Home—*A Description of the Cachexy of Africa*, by D. Chisholm; and many other observations on surgery and midwifery. [*Journ. Gen. de la Lit. Etrang. N° V. 9th Year.*]

ART. XXXI. WEISSENBORN, *Anleitung zur Geburtshülfe für Hebammen und Angehende Geburtshülfer: i. e. Elements of the Art of Midwifery, for the Use of male and female Midwives.* By J. J. WIESSENBORN. Second Edition, revised and augmented, by D. L. VOGEL. Octavo. Erford.

THE first edition of this work was esteemed one of the most instructive in the science of which it treats; it contains not only every thing which concerns the practice of midwifery, and the manner of proceeding in the various cases which occur, but also some clear instructions in extraordinary cases, as in extra uterine conception; on the possibility of conception when the genital parts are nearly closed, &c. The author combats the prejudices of female practitioners, the dangers of which he exposes with equal eloquence and reason. The editor has added to this edition an account of the author, whose premature death was a real loss to science.

[*Journ. Gen. de la Lit. Etrang. N° IX. 9th Year.*]

## MEDICAL INTELLIGENCE.

Art. 32. *On the Use of Acetite of Lead in Consumption.*

DR. HILDEBRAND, Professor of Medicine at Lemberg, has been trying *acetite of lead* as a remedy in pulmonic consumption. Of seventeen patients whom he had under his care, he states that four were completely cured; but in the others the suppuration of the lungs had already proceeded too far, as appeared on opening them after death. The *acetite of lead* is conjoined with opium according to circumstances.

Art.



Art. 33. *University of Halle.*

At the close of the year 1800 there were seven hundred and fifty-one students at the university of Halle, of whom forty-nine were nobles, and seven hundred and two of the *Tiers-Etat*; of these, three hundred and twenty-four studied divinity, three hundred and seventy-two jurisprudence, and fifty-five medicine; of the whole number, only ninety-one were foreigners.

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Art. 34. *Physical Society at Guy's Hospital.*

A paper on the cow-pox has lately been read before the Society, which has occupied much attention. The theatre, for three or four nights, has been unusually crowded, and numbers have gone away for want of room. The paper contains a good account of the rise and progress of the discovery, but nothing new on the subject. The full attendance was owing to the presence of the illustrious discoverer, and of several eminent practitioners who have actively propagated it.

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Art. 35. *Cuvier's Comparative Anatomy.*

An English translation of this work is in great forwardness. It is executing at Paris under the inspection of Cuvier, by an English physician well qualified to do justice to the undertaking. A number of notes by Cuvier himself, which are not in the French edition, will be added to the two first volumes.

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Art. 36. *Dumas's Physiology.*

We are happy to inform our readers, that a translation of this excellent work has been undertaken, and will appear shortly in three volumes, octavo. This is undoubtedly the best work on the subject that has ever appeared.

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Art. 37. *Blumenbach's Physiology.*

A late pupil of Professor Blumenbach is now engaged in translating his *Compendium of Physiology*, to which he means to add explanatory notes and illustrations; a labour which, from the utility of the work, and the difficulty of procuring the original in this country, he has been led to undertake.

Art.



Art. 38. *New Series of Nicholson's Philosophical Journal.*

This Journal, which has now been published in quarto for five years, has been closed, and a new work, upon a more comprehensive and improved plan, has been commenced under the same title by Mr. Nicholson. The new series is printed in the octavo form, upon fine wove paper, and illustrated by marginal notes, by which the subject and contents will be clearly seen.

Each number will contain four copper-plates, and will, in future, consist of, 1. Original Communications and Discoveries—2. Extracts from the German, French, and other Journals—3. Accounts and Reviews of all Books of Science or Arts published or imported into Great Britain—4. Maps, Charts, Plans, and scientific Engravings—5. Patent Inventions—6. Philosophical Discoveries and Transactions, domestic and foreign—7. Reports concerning the State of Manufactures, from actual Vistation—8. Original Explanations of the Processes of common Life—9. Useful Notices, valuable Receipts, entertaining and instructive Experiments. And though the greatest care will be taken that this Journal shall maintain its character for the accuracy, fidelity, and importance of its contents, great attention will, nevertheless, be paid to rendering it popular and instructive to the numerous cultivators of natural philosophy, who have not leisure to acquire the higher branches of science.

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Art. 39. *Blair's System of Surgery.*

Mr. Blair, of Great Russel Street, has circulated proposals for publishing by subscription, An entire System of medical and operative Surgery; comprehending the latest Improvements in the Theory and Practice, with numerous Engravings of chyrurgical Diseases, Operations, and Instruments.

This work will be printed in five octavo volumes, illustrated by above one hundred and fifty engravings. The price of each volume will be to subscribers 12s. and to non-subscribers 15s.

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Art. 40. *Lectures on Zoonomia.*

Dr. Garnett's Lectures on Zoonomia, or the Laws of animal Life, have excited considerable attention, on account of the novelty of the subject. The first lecture was delivered on Wednesday the 20th ult. In this lecture Dr. G. gave a general description of the human body, considered as a machine consisting of bones and muscles, for the purposes of motion at the



the instance of its intelligent principle. He likewise considered the various theories of sensation and muscular motion, and concluded the lecture with some galvanic experiments, which seem to shew, that electricity has a considerable share in producing these phenomena.

In the second lecture, which was delivered on Saturday the 30th ult. he proceeded to consider the nature of Respiration, and the cause of animal Heat.

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Art. 41. *Galvanism.*

Van Marum and Pfaff have lately charged the immense battery belonging to the Teylerian Society with Volta's pile. The battery was brought in contact with the pile for an instant only, and then indicated, by Bennet's electrometer, nearly the same intensity of electricity with the pile. On moistening the hands, and touching the battery in the usual manner with brass rods, a strong shock was experienced. The battery was then charged to the same intensity by the electrical machine, and the shock was the same as nearly as could be judged. This experiment proves *en grand* the identity of electricity and galvanism.

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*Persons who reside abroad, and who wish to be supplied with this Work every Month as published, may have it sent to them, FREE OF POSTAGE, to New York, Halifax, Quebec, and every Part of the West Indies, at Two Pounds Ten Shillings per Annum, by Mr. THORNHILL, of the General Post Office, at N° 21 Sherborne Lane; to Hamburgh, Lisbon, Gibraltar, and every Part of the Mediterranean, at Two Pounds Ten Shillings per Annum, by Mr. BISHOP, of the General Post Office, at N° 22 Sherborne Lane; to the Cape of Good Hope, and every Part of the East Indies, at One Guinea and a Half per Annum, by Mr. GUY, at the East India House; and to every Part of Ireland at Two Guineas per Annum, by Mr. SMITH, of the General Post Office, at N° 3 Sherborne Lane. It may also be had of all Persons who deal in Books at these Places, and in every other Part of the World.*



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THE  
LONDON MEDICAL REVIEW.

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VOL. VIII. N<sup>O</sup> XXXVII. MARCH MDCCCII.

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ART. I. *The modern Practice of Physic, which points out the Characters, Causes, Symptoms, Prognostic, morbid Appearances, and improved Method of treating the Diseases of all Climates.* By ROBERT THOMAS, M.D. In two volumes. Octavo. 932 pages. MURRAY and HIGHLEY, London. 1801. Price 17s. in boards.

TO those who may either not have leisure to peruse, or the means to purchase the numerous treatises, which both successively and contemporaneously throw new light on the nature and cure of diseases, a work undertaken on the plan of that which is now before us, and well executed, is a most valuable acquisition. The *London* and the *Edinburgh Practice of Physic* were compiled with such views; but their very titles imply the locality of their utility, and a treatise more nearly universal in its objects has been particularly desirable. Dr. T. having had opportunities of actually observing the diseases and practice of different countries, but especially of those of hot climates, and being conversant with the writings of our best modern authors and teachers, may be considered as well qualified to undertake so important a task. We proceed to analyze what he has executed.

In the history and treatment of fever, the author adopts pretty fully the ideas of a very learned and distinguished teacher of the present day, (Dr. Fordyce,) and we do not know that he could have trod a safer ground. Under the head of *Typhus*



*Icterodes, or the yellow Fever*, Dr. T. has very judiciously and correctly compressed the observations of Doctors Rush, Clarke, Chisholm, and M'Lean. It appears that the author himself had the advantage of studying the nature of this fever that prevailed in the West Indies from the year 1776 to 1785, which fever he conceives to be the same as that more recently manifesting its fatal influence in those colonies and on the continent of America. The only difference, in his opinion, consists in the latter having prevailed as an epidemic, from the subsisting vitiated state of the atmosphere, and from its having acquired, from other concurring circumstances, a degree of malignancy and virulence hitherto unknown. We extract the Doctor's remarks on the employment of venesection in this dreadful distemper.

“ The same difference of opinion which arose amongst the professional gentlemen of Philadelphia, with regard to the origin of the disease, seems likewise to have subsisted between them, as to the mode of treatment to be pursued; some recommending and adopting the antiphlogistic plan, by bleeding, purging, and a low diet; some the stimulant plan, with a liberal use of the bark, wine, opium, and the cold affusion; and others again, either purged moderately with calomel, or bled on the first or second day of the fever, and then resorted to a free use of bark, wine, laudanum, and aromatic tonics; and this practice they adopted on the supposition that the disease was inflammatory in its first stage, and putrid in its last. According to the report of Dr. Rush, this last mode of treatment was scarcely more successful than the tonic and stimulant one; and that which he found to succeed the best was the antiphlogistic, pursued even to a degree of extreme rigor; for we are given to understand, that although in some instances he allows of one or two moderate bleedings being sufficient, still, in most cases, he was in the habit of repeating the operation much oftener, and of drawing off a considerable quantity each time, even from the poor who resorted to his house for advice.

“ Whether or not bleeding may be practised with advantage to the patient in America, or to what length it may be carried, I am not capable of determining, never having been in that country; but being well acquainted with the climate of the West Indies, from a long residence there, and having often met with the disease, (although not under its present malignant form,) I must concur with the objectors, who contend, that bleeding cannot there be resorted to with advantage. If ever it is advisable, it can only be where the fever has made  
its



its attack on a newly arrived European of a full plethoric habit and vigorous constitution, and on the very first appearance of indisposition.

“ Dr. Clarke, in his treatise on this disease, mentions, that no native recovered when the lancet had been used; and Dr. Chisholme observes, that although the blood drawn, in the cases where this remedy was employed, appeared remarkably florid, and always threw up an inflammatory crust of greater or less thickness, and although the pains seemed to undergo a temporary mitigation, yet the consequence, at the expiration of a few hours, was always fatal, notwithstanding the patients were remarkably robust, florid, and generally in the vigour of life.

“ These observations fully justify the remarks which I thought it necessary to make under the head of Putrid Fever, and which I beg leave again to repeat; viz. that contagion certainly weakens the force of the solids, and greatly tends to dissolve the blood; for which reason, whenever we suspect a fever to have arisen from this cause, we should proceed with the greatest caution in drawing off blood, even although the symptoms may run high at the beginning, and may seem actually to demand the taking away a considerable quantity.

“ Dr. Hector M'Lean, who has likewise published on this fever, seems to be almost the only West India practitioner who approves of bleeding. He observes, that the determinations to particular organs, which take place in the disease, and which constitute its greatest danger; the marks of inflammation, which dissections have shewn in the stomach and biliary organs, evidently point out the propriety of this evacuation. He adds, that experience confirmed its utility; for his practice was much more successful, after he had adopted blood-letting, than before. By way of caution, he mentions, however, that it is only in the very early stages he thinks it advisable to have recourse to the operation, and that if it is not performed as early as the second, or at farthest the third day, he thinks it will not be successful.”

The varieties of bark, and other bitter medicines, used in the cure of intermittents, are thus noticed:

“ When we obtain an intermission, the Peruvian bark is then to be given during the intervals, in as large doses as the stomach will bear. Two drachms of the powder may be taken every two hours, as the benefits to be expected from this medicine greatly depend on a large quantity being administered in a short space of time; for five or six ounces of bark taken in a few days, will be attended with a much better effect than



perhaps as many pounds taken in the course of some weeks. If it will not sit easy on the stomach in substance, we must then be content to substitute either a decoction or infusion of it. Various substances of either an astringent, stimulant, or aromatic nature, such as alum, nutmeg, and snake root, have been joined with the bark, with a view of increasing its powers; but as these lessen its dose by their bulk, it will be best to give it by itself, unless it occasions a purging, and then about eight or ten drops of tinct. opii, or about a drachm of the tinct. e kino, may be added to each dose. On the contrary, should it produce costiveness, some gentle laxative may be taken occasionally.

“ In intermittents of long continuance, where the person is advanced in years, the habit phlegmatic, the season rainy, and the situation damp, a deviation from this rule may be allowable, and it may in this case be proper to make an addition of snake-root, and some warm aromatic, to the bark, and when the symptoms have more of an inflammatory tendency, it may be given with salt of wormwood.

“ In cold climates, it will in general be advisable to wait for a perfect and regular intermission before we give the bark; but in warm climates, where intermittents are apt to degenerate into continued fevers or remittents, and in which the habit is more irritable and weak, it will be right to administer it, even on the slightest remission, or most imperfect intermission.

“ Various species of bark are now to be met with amongst the venders of this medicine; and we have lately been favoured with the report of several gentlemen of eminence in their profession, giving a decided preference to the yellow, as possessing virtues far superior to the red, or any other species yet introduced into use.

“ From various trials made with it, these practitioners report, that it is bitterer to the taste, and more astringent than the other sorts; that a decoction and infusion of it are less liable to undergo fermentation; and that in every instance in which it was used by them it invariably proved successful. Half a drachm of the yellow bark in powder, given every two hours, has in general been found sufficient for the cure of an intermittent; hence they have presumed that it possesses nearly a double febrifuge power to that of common bark. Of its good effects, I can myself bear testimony, having used it with the most happy success.

“ During my residence in the West Indies, I met with many cases that resisted the powers of bark, and that gave way to a



use of quassia. Indeed, so sovereign a remedy was this found in intermittents, and so easy was it to be obtained, that it was pretty generally substituted by all practioners for the bark in common cases on the plantations. The best way of administering it is in the form of decoction. The Angustura bark is another remedy which I have often used with success.

“ Other substitutes for this medicine have been mentioned and advised. In the sixth volume of *Medical Facts and Observations*, published in the year 1795, we are favoured by Dr. Roxburgh with an account of a new species of the swietenia (mahogany), which from repeated trials, and experience of its effects, he proposes as a substitute for the cinchona. He calls it the swietenia febrifuga, and says, its astringent and bitter qualities are more intense than those of the Peruvian bark, and that its active parts are much more soluble than those of the other, particularly in watery menstruums. He adds, that it contains a much larger share of active (bitter and astringent) powers than Peruvian bark: that watery preparations of it remain good much longer than similar ones of the latter; that spirituous and watery preparations of it bear being mixed in any proportion without decomposition; and that its antiseptic powers are greater.”

To the effects of the willow bark the author does not at all advert, though in this island it has been so largely employed.

We highly approve of the opinion advanced in this work respecting the treatment of erysipelas; an opinion which may serve to reconcile the diversity of ideas prevailing among practitioners on this subject, and which we quote as a very favourable evidence of the author's judgment and discrimination.

“ I shall consider the complaint as sometimes combined with phlegmonous inflammation, as now and then happens, when it arises in a full plethoric habit. In such a case, if the skin is hot and dry, the pulse full, strong, hard, and frequent, and the head affected with stupor or delirium, it will undoubtedly be proper to have recourse to bleeding, cooling purgatives, relaxant medicines, and the strict observance of an antiphlogistic regimen, as recommended in phlegmon. Topical bleeding, however, by means of leeches, which proves so useful in other varieties of inflammation, is not admissible in erysipelas, as the orifices by which it is drawn, are very apt to degenerate into those troublesome ulcers, which the disease, when it terminates in effusion, sometimes produces. When we have occasion, therefore, to draw off blood in order to counteract the inflammatory diathesis, we must do it by opening a vein; and



and as to the quantity to be taken away, we are to be regulated in this, by the violence of the inflammatory symptoms, the appearance of the blood when drawn, and the strength of the patient. If the disease is perfectly pure and local, does not affect the head, is unaccompanied with symptoms of general inflammation, and has arisen in a weak irritable habit, or is accompanied with a fever of the typhoid kind, bleeding will be highly improper.

“ The same observation will likewise apply to the making use of strong purgatives ; but although I disapprove of such medicines in the latter instance, still it will be highly proper to keep the body open by gentle laxatives, so as to procure one or two motions daily.

“ Where the inflammation is of a phlegmonous nature, and the head is much affected, a liberal use of active purgatives will undoubtedly be proper.

“ While we endeavour to evacuate the morbid contents of the alimentary canal, we should at the same time correct what part of these may still remain, by a use of acids or absorbents, according as bile or an acid seems to prevail.

“ In those cases, where the fever and inflammation run high, relaxant medicines will be proper, and they may be given conjoined with nitre, as advised in phlegmon, or as directed under the head of Inflammatory Fever.

“ As erysipelatous fevers often terminate by sweat, mild diaphoretics, with plentiful dilution, become a necessary part of the treatment, and should never be neglected.

“ In those cases where the face is affected, and coma prevails, the semicupium, together with snapisms applied to the feet, will be highly advisable.

“ It has been observed, that when the disease has made some progress, blisters of various sizes usually arise. The most proper application will be some dry mealy powder, such as starch, wheat flour, oatmeal, chalk, or litharge ; but oatmeal may perhaps be preferable to the rest, on account of its not being likely to cake, and become hard by the humour which weeps from the parts affected. When effusion is found to have occurred in any considerable quantity, it ought to be discharged by making a small opening in the most dependent part. It has been usual to employ emollient fomentations, and poultices in this state of the complaint, in order to bring on a proper suppuration ; but the effusion which sometimes happens in erysipelas, not being of a nature to be converted into pus, as in the case of a pure phlegmon, they certainly cannot



cannot prove serviceable. The ceratum lithargyri acetati, or the unguentum cerussæ acetatæ, will be the best applications.

“ These are the means to be employed when erysipelas happens to be combined with phlegmonous inflammation. When it arises in a weak delicate habit, and is accompanied with symptoms of irritation, such as depression of strength, a quick small pulse, &c. then to take off the irritability, and guard against a termination in gangrene, which sometimes ensues, we should give the Peruvian bark, Virginian snake-root, camphire, aromatic confection, and vitriolic acid. Where a tendency to mortification becomes apparent, these medicines, with wine and other antiseptics, will still be the more necessary. When erysipelas is accompanied with a tendency to the worst kinds of hemorrhagy, from being of a malignant nature, alum and the vitriolic acid are particularly indicated.

“ When the disease is mild, and unaccompanied with febrile symptoms, it will be sufficient to keep the patient within doors, without confining him to his bed.

“ In those cases, where the inflammatory symptoms run high, the diet should consist of light nourishing things, such as preparations of barley, sago, tapioca, rice, Indian arrow-root, panado, and the like; and his drink should be lemonade, tamarind beverage, or barley water, acidulated with some vegetable acid; but in those cases where symptoms of irritation prevail, a more generous diet, such as animal broths, and a moderate use of wine, ought to be allowed.”

Dr. T. speaks, from his own experience, of the good effects resulting from the exhibition of Cayenne pepper in the malignant sore throat. This disease prevailed as an universal epidemic amongst children, in the island of St. Christopher, in the year 1787, and the remedy employed in the following manner, manifested the most happy effects: two small tea-spoonfuls of the pepper, and a tea-spoonful of salt, were infused about an hour in half a pint of boiling water and an equal quantity of warm vinegar; the liquor was then strained through a fine cloth, and two table-spoonfuls were given every half hour. The same infusion proved also a very useful gargle.

In the cure of Tetanus, another disease with which the author became conversant, during his extensive practice and long residence in the West Indies, he informs us, that he found most benefit to be derived from opium, (used externally as well as internally,) and from the *cold* bath. These cases, however, in which the latter was had recourse to by the author, originated



originated from cold. The plan generally pursued was to throw a-pailfull of cold water upon the patient every two hours, after which he was wiped dry, and again put to bed. From the tetanic affections which had arisen in consequence of wounds, lacerations, or punctures, he saw, he says, only one instance of recovery.

The following is one of the most satisfactory descriptions of the *negro cachexy*, (called in our colonies *dirt-eating*,) with which we are acquainted, viz.

“ This disease, known by the name of *Mal d’Estomach* amongst the French, and by that of *Dirt-eating* in our West India colonies, from this symptom which invariably attends on it, is frequently to be met with amongst negroes, but more particularly those imported from Africa. Mons. Sonnini makes mention, in his Travels through Egypt, that a propensity for eating earth is a disease frequently to be met with amongst the Egyptians. Between it and chlorosis, there is in many respects a great similarity; but they differ in this circumstance, that the latter only affects females, and that principally about the age at which menstruation ought to commence; whereas the former affects males as well as females, and is often to be met with in children of six or seven years old, as I have seen happen in various instances.

“ It evidently arises from a want of due energy or vigour in the system, induced by various debilitating causes, as grief, despondency, poor diet, hard labour, and harsh treatment. With some the disease is constitutional, and proceeds from general relaxation, a vitiated state of the stomach, and bad digestion. Negroes imported from the coast of Africa, who are of an inactive indolent habit, and children of lax fibres, and who have been badly nursed and afterwards neglected, are most liable to its attacks.

“ *Cachexia Africana* shews itself by a fondness for solitude, and an indulgence in grief and despondency; together with a loss of appetite, constant pain in the stomach, difficulty of breathing upon the least bodily exertion, paleness of the face and palms of the hands, whiteness of the tongue, with an appearance like stains of ink upon it, whiteness of the lips, drowsiness, inactivity, unwillingness to attempt and inability to perform motion, and general debility. The tunica adnata is of a glassy whiteness, the skin of an olive complexion and cold to the touch, the eye-lids, face, and extremities shew evident signs of an extravasation of water in their cellular membrane, and the unhappy sufferer can only breathe in an erect



erect posture, from water being likewise collected in the chest and cavity of the abdomen. The stools are at the same time of a white or clay colour, the urine is scanty, and the pulse is always small, and generally becomes quicker as the night approaches.

“ In consequence of the vitiated state of the gastric juice and impeded digestion, a morbid acidity prevails, and a symptom arises from this cause, which with some has given name to the disease, viz. a habit of eating dirt, chalk, or whatever will obtund acrimony.

“ This vitiated action is propagated throughout the whole alimentary canal; the lacteals are abraded by acrimonious fluids, and no longer possess the power of absorbing healthy chyle; hence the lymphatic glands become indurated and inflamed. The blood, poor, vapid, and colourless, no longer stimulates the heart and arteries to action; hence asphyxia and sudden death.

“ Fatal consequences usually attend this disease. On dissection, the stomach is usually found much enlarged and thickened in its coats, the liver is of an increased size, scirrhus, and always preternaturally white; biliary concretions are sometimes met with in the gall bladder; the bile is never of a healthy appearance, but usually of a thin watery consistence and of a slightly yellow or fresh colour; the mesenteric glands are indurated and scirrhus, and polypous concretions are found in the heart.

“ The proper indications of cure seem to be, first, to strengthen the general system, and give due energy to the constitution; and secondly, to correct the morbid acidity which prevails.

“ To obtain the first of these purposes, the patient must be allowed a generous and nutritive diet, consisting principally of animal food and wine, or weak fermented liquors. Cane liquor boiled to the consistence of a thin syrup (as in the first process of sugar-making) is also of a very restorative nature, and ought, during crop time, to be allowed liberally. With a generous diet, the patient should be made to take moderate exercise daily, as a want of this will not fail to increase the general debility and add to the disease. Warm clothing, with occasional frictions by means of flannels, will likewise be proper.

“ To assist the effects of these means, we must put the patient under a course of bitters joined with aromatics, different preparations of the Peruvian bark, with myrrh, and chalybeates, as advised under the head of dyspepsia.



“ The antihectic mixture of Dr. Griffiths (see phthisis) will be likely to prove a most valuable remedy in this disease.

“ The second indication is to be answered by alkalies and absorbents, as recommended under the same head. The exhibition of an emetic of the vitriolum cupri, once or twice a week, as advised in phthisis, seems likewise advisable.

“ When costiveness prevails, it ought to be removed by a use of some warm stomachic laxative, such as the tinctura rhabarbi composita, or tinctura aloes composita.

“ If the disease has been of such standing as to be attended with anasarcaous swellings, besides using the means already recommended, we must have recourse to diuretics, as advised in dropsy.

“ Where it is accompanied with a retention of the menses, we must endeavour to promote these by calling in the assistance of the emmenagogues.

“ In order that the depravity of appetite may not be indulged, the patient should be lodged in a room which has a boarded floor, and where he cannot possibly get at any dirt; and when he goes out for exercise, he should be accompanied by an attendant, who will not permit him to eat it.

“ Dr. Chisolm, in his ingenious essay on this disease, says, it is remarkable, that negroes, who are subject to it, have been much benefited by living in a low situation, near marshes, which quickly prove fatal to whites; and he had long observed this before he formed any theory on the subject. He adds, perhaps the hydro-carbonic air may act as a cordial; it is perhaps the nervous æther itself. It has been remarked by medical writers, that the attack of remittent marsh fevers is frequently preceded by an unusual flow of spirits.

“ From my own observations, during a long residence in the West Indies, I am ready to admit with Dr. Chisolm, that mountainous situations do not agree with cachectic negroes so well as low ones; but I cannot with him attribute the effect to the influence of marsh effluvia. Noxious vapours arising from stagnated waters and marshy grounds, acted upon by a powerful sun, prove, in warm climates, a never failing source of disease under all circumstances, and under every condition of the body. The cachectic negro cannot endure the cold, chilling, and damp air of a mountainous situation; but in a low one (the more remote from marshy grounds or stagnant waters the better) he feels warm and comfortable, and breathes a pure dry air, moderated in its temperature by the refreshing and reviving breezes which come off the sea.”

Under



Under the head of syphilis we were somewhat surprised to find this intelligent practitioner adopting sentiments so very different from those which, by the best informed part of the profession, are now most generally entertained.

“It has been disputed,” says he, “whether or not the matter secreted in a clap, is of a similar nature with that secreted from a chancre, and whether it is possible, for a person labouring under the one or the other, to communicate to a healthy subject, a different species of the disorder from that with which he is infected. That a gonorrhœa, chancre, and confirmed lues, all arose from the same original infection, may I think readily be admitted; and that the matter produced both in gonorrhœa and chancre are of the same nature, cannot, I presume, admit of the least doubt, as daily observation must convince those who are frequently consulted in venereal cases, and who have given themselves the trouble to investigate the nature of the complaint, which the person laboured under, who propagated the infection, that the matter from a gonorrhœa may and often does give rise either to a clap, chancre, or confirmed lues, and that the matter secreted from a chancre will do the same. The event depends, most assuredly, on the state of the parts, and the constitution of the patient, together with other accidental circumstances at the time the poison is applied, and not on any difference in the nature of the matter secreted in the one, or the other affection.

“When a person labouring under the venereal disease, forms a connexion with another who is free from it, and who happens to have any little excoriation, ulcer, or wound, about the parts of generation, it is probable, that if the poison is conveyed to the healthy subject, it will be most likely to shew itself under the form of a constitutional affection; as in this case, the matter is applied so as readily to be absorbed into the system, in a manner similar to what happens in the small-pox; whereas if it is applied to a part that is spungy, or to a surface covered with a mucous membrane, and where neither excoriation, ulcer, nor any wound exist, then the most probable consequence will be, either a gonorrhœa or chancre.

“In offering this as my opinion, I by no means wish to be understood that I mean to assert, this will invariably be the case. Much (as has already been observed) will depend on the state and irritability of the parts at the time the poison is applied, as also on the habit of the person, and other accidental circumstances.

“In making this observation, I by no means wish to infer,  
P 2  
however,



however, that a clap can in no instance effectually be removed without mercury. In those cases, where the disease is recent and perfectly mild, and where neither excoriation nor ulceration have taken place, it probably may continue a local affection, and at last effect its own cure; but as we cannot discriminate those cases, in which the matter will not be absorbed into the system, from those in which it will, it appears to be the safest and most advisable plan to have recourse to mercury in most cases of gonorrhœa, as by so doing, we shall thereby be ensured against all unpleasant consequences; which whenever they ensue from neglecting to do so, will be sure to hurt the practitioner in the esteem of his patient."

The Doctor very justly censures the general and indiscriminate use of caustics, which has lately prevailed, for the removal of strictures of the urethra. He seems to favour the practice of the armed bougie only in cases of *impervious* stricture; and that species of the instrument recommended by Mr. Whately he considers preferable to Mr. Cartwright's.

We shall conclude our extracts from this work with the description of the nature of puerperal fever, concerning which the opinions of writers continue to be as various as concerning the suitable treatment.

"This is a disease peculiar to women, and is supposed to occasion the death of nearly one half of those who die in child-bed. Until of late, it has not been much noticed by medical writers, and even now various opinions are entertained with regard both to its nature and the causes producing it. Some have doubted if it deserves the title of specific, or ought to be regarded as of a particular genus, and these have been accustomed to look on it as only a simple modification of the known species of fever, taking its origin from the leaven of the prevailing epidemic constitution, whether inflammatory or putrid, modified by the habit of body, the mode of living, the age and temperament of the patient, the preceding causes, the season of the year, and temperature of the air, &c. Others again have considered the disease not as a fever, but as an inflammation either of the uterus, peritonæum, or omentum; and it is true, that in some respects, it is analogous to these affections; yet there is still so material a difference in the nature of its attack, in its general progress, and in the manner of its termination, that there seems to exist an essential difference between them.

"By some physicians it has been represented as owing its existence to the undue secretion of milk, and by others, as arising from  
from



from a suppression of the lochia. The real cause appears to me to be a metastasis of the milk, by which there is a tendency to deposite particles of a caseous and serous nature, either in the abdomen (as is most frequently the case), in the breast or head, or in the external cellular membrane. The symptoms of inflammation or putrefaction, which sometimes intervene, appear to be only secondary, and do not constitute the principal character of the disease. It may be complicated with the hospital or gaol fever, and perhaps from this reason is so common in lying-in hospitals, in which it is apt to make considerable progress, and to prove fatal to a great many women.

“ The period at which women are attacked with this disease is uncertain, as in a few instances it has arisen at the distance of a week after delivery; but the most usual time of its attack is on the third or fourth day after that event. The patient is seized at first with a slight coldness and shivering, succeeded by pains in the head, ringing in the ears, flushings in the face, great anxiety, and restlessness. As the disease advances, the whole abdomen becomes affected, is highly painful to the touch, and much tumefied. She likewise feels great pain in the back, hips, and sometimes in the legs, and she performs respiration with great difficulty, the breathing being short and laborious, from the pressure against the diaphragm, as well as from an organic affection of the chest itself. If the milk has been previously determined to the breasts, it suddenly disappears on the approach of the disease; but if the attack of fever commences sooner, the milk does not appear. The lochia are altered both in quantity and appearance; the urine is turbid, small in quantity, and voided with pain, and a tenesmus often arises. The skin is hot and dry, the pulse weak and frequent, the number of pulsations being often from 110 to 130 in a minute; thirst prevails, and there is vast prostration of strength with depression of spirits, a disinclination to suckle, carelessness about her child, and watchfulness.

“ A vomiting not unfrequently attacks at the same time, and in so high a degree as to prevent the smallest quantity of food or medicine from being retained on the stomach. The matter thrown up is of a dark porraceous colour, and often of a disagreeable smell. The functions of the primæ viæ are likewise much disturbed. At the commencement, they usually go on well; but in the progress of the disease, a severe purging often ensues, particularly in those cases where the abdomen has



has been much distended. It seldom happens that any violent delirium arises, but the patient is apt to fall into a low comatose state, wishing by no means to be disturbed.

“ After a few days continuance of these appearances, the fever often acquires a putrid tendency, particularly in hospitals and confined situations, or when the state of the atmosphere predisposes to diseases of that nature; the lips, teeth, and tongue are covered with a dark brown fur, aphthæ beset the whole internal surface of the mouth, tongue, uvula, tonsils, and pharynx; the breath is highly offensive; the stools are fetid, of a dark brown colour, and pass off involuntarily; and in a few cases purple spots appear on different parts of the body.

“ A flaccid state of the breasts, with soreness, pain, great abdominal tension, and fever, may be regarded as the pathognomic symptoms of puerperal fever. After pains may readily be distinguished from it by the intervals of ease, and perfect absence of pain which attend these; but which occurrence does not take place in the other.

“ The progress of the disease is sometimes so very rapid, particularly in warm climates and hot seasons, as to destroy the patient in 48 hours. Even in cases seemingly the most favourable, we should look on the event as doubtful, as the complaint is apt to be accompanied with delusive remissions, and indications arise in its progress, which are by no means proportioned to the danger. The risk seems however to be greater in proportion as the accession is sooner after labour. When the disease comes on at a late period after delivery, the depression of strength is usually less considerable, the tumefaction of the abdomen is less extensive, and the other symptoms are less violent, and consequently there will be a greater chance for the woman's recovery.

“ The reappearance of the lochia and a subsidence of the abdominal tension, and soreness after copious stools, and with a moist skin, may be regarded in a favourable light. On the contrary, an extensive swelling of the belly, sudden cessation of pain, irregularity in the pulse, coldness in the extremities, clammy moisture diffused over the whole body, dark coloured and fetid evacuations by stool; and an indifference to all external objects, denote certain and speedy death.

“ On a fair computation, three fourths of the women who have been attacked with this disease, have fallen sacrifices to it.

“ The morbid appearances observed on dissection are usually confined almost wholly to the abdomen. The first thing that presents



presents itself is a collection of fluid in the cavity of the abdomen, which is sometimes so considerable in quantity, as to amount to several quarts; and it has a peculiarity of smell different from any other fluid to be met with in the human body, either in health or disease. Where it is large in quantity, the surfaces of the different viscera, and of the peritonæum, will usually be found covered with a crust formed of a solid part of this matter, resembling coagulated lymph. If there be any interstices between the intestines, or the other viscera, they are frequently filled with large masses of the same, adapted exactly to the shape and size of such interstices. In a few cases, a deposite of a caseous and serous nature has been discovered likewise in the head, breast, and external cellular membrane, as has been before observed. In most instances there is found some slight degree of inflammation in some part of the cavity; but it is not confined invariably to any particular place, as the uterus, ovaria, peritonæum, omentum, intestines, and bladder, have all in their turn being found in a state of inflammation."

The exhibition of carbonate of potash, as recommended by Cit. Guinot, is considered by our author as highly deserving of attention; he has ascertained that it has proved very successful in the treatment of this disease with many practitioners. He thinks, that such a medicine might be very advantageously combined with the Peruvian bark, and that it ought never to be omitted at an early period of the disease.

On the whole, we think that Dr. Thomas has acquitted himself of his important undertaking in a manner highly creditable to him as a man of research and as a practical physician, and that his work deserves to stand high in the catalogue of this kind of compilations.

The reader will meet with many obsolete names and terms, and with a few exploded doctrines, which are certainly a disparagement to a work professedly founded on modern nomenclature and modern systems; but the matter in general will be found to be both useful for reference and deserving of adoption.

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## ART. II. MOTHERBY'S *Medical Dictionary, or general Repository of Physic.*

(Concluded from page 13.)

**W**E have not been able to find in the present work any notice of fumigation with the vapour of nitrous acid, as employed



ployed by Dr. Carmichael Smyth, and which, from the degree of attention it has excited, should not have been entirely omitted.

The date of the present edition has allowed the editor to notice the Cow-pox, which he does with sufficient care and accuracy.

A considerable improvement has been made in the present edition in the description of cutaneous diseases; the light thrown upon this difficult and intricate subject by the valuable and elaborate Treatise of Dr. Willan, has been applied with great advantage by the editor, and the result has been several new and important articles; the following is one of them:

“**PRURIGO SENILIS**, (from *senex*, an old man;) so called because it is an affection of old age. In this species the patients are tormented with a violent and universal itching; the papulæ are for the most part large, though not inflamed; sometimes the whole surface has a shining appearance, and is irregular, or granulated, without an irruption of distinct papulæ. This state of the skin is succeeded by scurf, or scales, which prove an additional cause of irritation from their repeated separation and renewal; and when, by scratching, the cuticle is abraded, a mingled sensation of itching and smarting rises at times beyond all human sufferance. This disease does not differ much in its symptoms and external appearance from the foregoing species, but has still been thought to merit a distinct consideration from its peculiar inveteracy. From the dry condensed state of the skin and cuticle, which takes place in old age, this species of prurigo is perhaps aggravated, and becomes more permanent at this period of life. The melancholic and mixed temperaments are most subject to it; and it appears to be connected with a languid state of circulation, and weak digestion. If the disease should be in a high degree, during life there is little comfort to be expected. A warm bath is the only application which allays the itching and irritation, though, in general, it is but temporary. Greater advantage is experienced from baths of warm sea-water, or of the sulphureous waters of Harrowgate; the latter of which should be administered internally at the same time; and indeed those waters appear to be the best remedy for this complaint with which we are at present acquainted. On the skin and linen of a patient labouring under this disease, Dr. Willan observed a number of small insects, which, by the use of a magnifying glass, he thought were of the *pulex* kind; and remarks, that neither the patient's wife, nor any of the family,



nily, were similarly affected, nor could any of the insects be found upon them. In this case a strong solution of the hydrargyrus muriatus was the most efficacious remedy, though it was not a radical cure; for the complaint returned within three weeks; but by the same application the patient was enabled to live comfortably. The disposition of the skin in the *prurigo senilis* is favourable to the production of *pediculi humani*—body-lice; which are bred abundantly among the inhabitants of jails, sordid dwellings, workhouses, &c. &c. and are the offspring of filthiness; but, notwithstanding the most strict attention to regimen and cleanliness in this disease, they arise and multiply so rapidly, that, from their perpetual irritation, the patient endures extreme distress; but these *pediculi* are only found on the skin, or on the linen, not under the cuticle, as some authors have represented. To these Dr. Willan has added some local pruriginous affections of the *anus* or *podex præpuce*, *urethra*, *pubes*, *scrotum*, and *pudendum muliebre*. The *first* is occasioned by ascarides, hæmorrhoidal tumours, and other obvious causes, which is cured by the removal of the complaints from whence it originates; but in persons engaged in sedentary occupations, it probably arises, independent of the foregoing causes, from a morbid state of secretion in these parts. Vinegar is more advantageous than any other of the lotions for allaying the itching; but the relief is not permanent. The unguentum hydrargyri nitratum answers best. Plummer's pill has been found beneficial; and in weak relaxed habits Peruvian bark and chalybeates expedite the cure. A light cooling diet should be adhered to; great moderation in the use of wine, and a total abstinence from spirituous liquors. According to Dr. Lettsom's account, in the Medical Memoirs of the London Society, vol. iii. it may be considered as frequently preventive of other diseases; as various long indispositions; a disorder of the chest, attended with a weak and intermitting pulse; vertigo, attended with strong symptoms of an approaching apoplexy, were relieved by its appearance: at the same time it may be observed, that the repulsion of the acting cause, in some cases, may be succeeded by fatal consequences; as was the case of a patient, much relieved from great debility, occasioned by frequent fits of the gout, from the appearance of *prurigo podicis*, who, in order to relieve the troublesome itching by a strong saturnine solution for a few days, suddenly expired in his chair. The *second* is owing to an altered state of the secretion on the glans penis and inner surface of the *præpuce*. Keeping the parts clean by the



use of warm water, or soap and water, will alleviate the complaint; and should the secreted fluid be too copious, the excess may be restrained by lotions made with the aqua lithargyri, or by applying the unguentum cerussæ acetatæ. The *third*, where no stricture or tumour has been found along the course of the urethra in women, has taken place at its extremity, the itching may probably be occasioned by a morbid state of the neck of the bladder; particularly in instances attended with pain and difficulty in making water. The use of bougies in these cases has proved successful; a remedy recommended by the late Dr. Hunter. In men it is sometimes produced by small broken hairs fixed in the entrance of the urethra, which occasion an itching, or slight stinging, particularly in walking. The removal of hairs forms the cure. The *fourth*. In this papulæ often arise on the pubes, and become extremely sore if those tops are removed by scratching. These papulæ are occasioned by neglect of cleanliness, but more commonly by a species of pediculus, named *morpiones*."

The interesting speculations on the nature of Diabetes Mellitus, and the cause of the remarkable change in the chemical nature of the urine which attends this singular disease, have much engaged the attention of physicians and physiologists of late years; it would be too much to expect a full discussion of these opinions in a work like the present; but the reader cannot but be disappointed in finding them entirely unnoticed.

Considerable attention has been bestowed on the article Lues Venerea, and much good and interesting matter has been collected on the subject: the use of the nitric acid, however, the merits of which have been so much canvassed, is not once mentioned.

The surgical part of this Dictionary is in general well selected and faithfully executed. In this branch, the valuable work of Bell has furnished to the editor as ample materials as Cullen in the former. We have not discovered many additions to the surgical part of the present edition, and we still remark some imperfect articles. The operation of tying the femoral artery in popliteal aneurism is peculiar to modern surgery; and though its success has not equalled the sanguine hopes which we at first entertained of it, the operative skill and scientific ingenuity which it displays render it worthy of an accurate description. It is, however, only noticed in the following short paragraph:

"Under some particular circumstances, taking up the femoral



moral artery in popliteal *aneurisms* may be performed with success, and the leg preserved, where the misfortune occurs from accidents, as falls, bruises, or punctures, &c. in sound, healthful constitutions, in full vigour; but if the *aneurism* arises gradually in habits, where there is reason to suspect a diseased state of the arteries, amputating the limb is certainly the least dangerous mode, and should be preferred.

“ See instances of *aneurisms* of the femoral artery being cured, in the Lond. Med. Obs. and Inq. vol. iii. p. 106. And in the Edinb. Medical Commentaries, vol. ii. p. 176. Also in Warner's Cases of Surgery.”

The cases of stricture in the urethra are so frequent, and so much has been written on the subject by several of the most eminent among the surgeons of the present time, that we might expect the author of a scientific Dictionary, like the one before us, to give a comprehensive view of the causes, symptoms, and mode of cure of this disorder. We have looked in vain for the article Stricture, examined that of Urethra, Lues, Gonorrhœa, Bougie, and others, and, to our great surprise, we have not found a single word on the subject.

In Materia Medica so much excellent matter is furnished to the compiler by the valuable publications on the subject which we possess, that little more is to be done than to copy from them as much, or as little, as will suit his purpose. The authorities of Neuman, Lewis, and the Pharmacopœias, have been chiefly consulted in the work before us, and due attention has also been paid to other authors of less general extent. On this account the materia medica of this Dictionary appears to be almost uniformly good, as far as we have examined it. The reader will allow us to give the article Ipecacuanha as a specimen.

“ IPECACUANHA, (Indian). Also called *Brasiliensis radix*, ipecacoanha *Brasiliensibus*, *herba paris Brasiliana*, *polycocos*, *hippecacuanna*, *caa-apia*; *Indiana radix*, *ipepocoanha*, *periclymenum parvum*, IPECACOAN, or BRASILIAN ROOT. It is the *PSYCHOTRIA EMETICA*, or *psychotria herbacea procumbens*, *foliis lanceolatis glabris*, *stipulis extrafoliaceis subulatis*, *capitulis axillaribus pedunculatis paucifloris*, Linn. Curtis, in his Catalogue of medicinal Plants, &c. contained in the London Botanic Garden, calls it *viola ipecacua*. It is brought from the Spanish West Indies. Four sorts are mentioned, viz. the gray, brown, white, and yellow. The gray is generally esteemed the most, but Neumann assures us that the brown is equally good. The white sort is much



much weaker than the other, and the yellow does not act in the least as an emetic, being merely purgative. The Peruvian sort is called *berugillo*.

“ Ray says, that the *ipecacuanha* is a species of the herb *paris*; it bears a number of berries. Notwithstanding what has been said by various authors respecting this plant, a very late writer, Dr. Woodville, who has made medical botany his study, says, ‘ It seems surprising, that the plant *ipecacuanha*, which has been in use more than a century, should have not been botanically ascertained. The younger Linnæus thought the *psychotria* the genus to which it belonged, and has therefore named it *psychotria emetica*; still the authority on which Mutis received the information cannot be implicitly followed.’ He, however, has supplied a figure of the true *ipecacuanha* plant, though, not being advanced to a state of inflorescence, it still leaves the matter undetermined: for this plant, preserved in spirits, was sent by Governor Philips from Brasil to Sir Joseph Banks. The roots of the gray sort are about the thickness of a small quill, very unequal and knotty; variously bent and contorted; full of knots and wrinkles, and deep circular fissures, which reach down to a small whitish woody fibre, that runs in the middle of each piece: the cortical part is compact, brittle, and looks smooth, and resinous on breaking. They have little or no smell, the taste is bitterish and subacid, covering the tongue as it were with a kind of mucilage. The brown is small, somewhat more wrinkled, of a brown or blackish colour without, and white within. This is brought from Brasil. The white is woody, has no wrinkles, and, to the taste, no perceptible bitterness. The *ash-coloured* or *gray ipecacuanha* is that generally preferred for medicinal use. The *brown* has been sometimes observed even in a small dose to produce violent effects. The *white*, though taken in a large one, has scarce any effect at all. The root contains a gummy and resinous matter, though the gum is in much greater proportion, and more powerfully emetic than the resin; the cortical part is more active than the ligneous; and the whole roots manifest an antiseptic and astringent power; the emetic quality is most effectually counteracted by the acetous acid; for thirty grains, taken in two ounces of vinegar, produced only some loose stools. These particulars have been ascertained by the experiments of Dr. Irving.

“ This medicine is the mildest and safest emetic with which we are acquainted; for it readily passes off by some of the other emunctories, if it does not operate as a vomit.

“ Choose



“ Choose the larger compact roots that have a resinous appearance. The slender, blackish brown, and those which are full of fibres, are the worst.

“ The *caapia*, commonly sold under the name of white ipecacuanha, is imposed for the true ipecacuanha; but its roots are yellowish, or of a yellowish white colour. The *aconitum*, or *apocynum*, is another imposition; but the colour of its medullary fibre is of a deep reddish yellow colour, whereas that of the ipecacuanha is whitish, or of a pale gray.

“ Helvetius first brought this root into repute as an anti-dysenteric; since which time it has been used in diarrhœa, menorrhagia, and leucorrhœa; and in disorders proceeding from obstructions of long standing; in spasmodic asthma, where nothing forbids repeated vomiting, it has been efficacious; for, in violent paroxysms, it has procured relief: where habitual, from three to five grains may be given every morning, or from five to ten every other morning, and continued for four or six weeks. Small doses of one-third to one-half a grain have been of use in catarrhal, some consumptive cases, and various states of fever. It has also been employed in the cure of agues as an emetic, given at the time of accession, or at the close of the cold fit. Of all its preparations, the powder is the best; two or three grains of which will produce two or three discharges by vomit; and, in diarrhœas and dysenteries, in which perspiration is defective, after its puking two or three times, it excites a perspiration, if the patient is wrapped up warm. Its chief operation is considered as an emetic in proper doses; in smaller doses, as a nauseative and aperient, upon which its antidysenteric power seems to depend. See Cullen's Mat. Med.

“ The best menstruum for extracting the whole virtue of the root is one part pure spirit, and two or three of water; of wines, the Canary or mountain obtains most from it; but the London College directs the following:

“ *Vinum IPECACUANHÆ. Wine of IPECACUANHA.*

“ Take of the roots of ipecacuanha in powder two ounces; of Spanish white wine, two pints; digest for ten days, and strain. Ph. Lond. 1788. Dose as an emetic, from ʒij. to ʒj. ℞.; as a diaphoretic, from twenty to forty drops, with a fourth part more of tinctura opii.

“ Dr. Alston, of Edinburgh, says, that the virtue of this root resides not in its oil, gum, or resin, but in its peculiar spirit. See DIARRHŒA and DYSENTERIA, for its use in those disorders.



disorders. If three grains of powdered ipecacuanha is added to fifteen grains of jalap, it operates downward both more certainly and efficaciously.

“ To deceive children, mix ℥j. or 3℥. of powdered ipecacuanha with half a pint of boiling water in a tea-pot; disguise it with a little milk and sugar, and give a tea-cupful every ten or fifteen minutes, till it operates: when thus given, it needs nothing to work it off with. The College also orders

“ *Pūlvīs IPECACUANHÆ Compōsitus. Compound Powder of IPECACUANHA; named also Doveri pulvis.*

“ Take of ipecacuanha, hard purified opium, of each, rubbed into powder, one drachm; of vitriolated kali in powder, an ounce. Pharm. Lond. 1788. The dose is from ten to thirty grains; the former dose containing a grain of opium. This is very nearly the same as the powder of Dr. Dover, and is considered as one of the most certain sudorifics in practice; for which purpose it is given in rheumatism, dropsy, and other diseases where sweating is necessary, and that difficult to be procured by any other means.”

The modern practice of physic has so much sanctioned the use of *electricity* in a variety of disorders, that it certainly deserved a place in this work: it is, however, totally omitted, both as an article by itself, and no mention is made of its use in chronic rheumatism and other disorders in which it is often prescribed with success.

We are sorry, however, that we cannot give much commendation to the chemical part of this Dictionary: we have found several omissions and some mistakes in this subject, some of which we are compelled to notice. Much has been done of late years by various chemists of considerable eminence towards perfecting the analysis of animal matter. The most important of the animal fluids, such as the blood, urine, and bile, and the solids, such as bone and muscular flesh, have been analysed with a degree of skill and accuracy infinitely surpassing all the labours of the older chemists on these points. The subject is new and curious, and though the most subtle operations of nature will probably ever elude the sharpened eye of the experimentalist, physiology has much to expect from the science of chemistry. On every one of these points the editor of the work before us is almost totally silent.

We have likewise remarked several mistakes in the chemical accounts of some of the mineral waters. In the article *Bathonix Aquæ*, after giving Dr. Higgins's analysis of the Bath



Bath waters, the writer observes very properly, that “these waters were for a long time esteemed to be sulphureous, but certainly they have not a title to that name in the least; they do not affect the colour of silver or metallic solutions, or produce any other effect of water impregnated with sulphur;” and yet in the very next line he observes, that “it is from the combination of *sulphureous gas*,” &c. “that the Bath water is so useful;” and in another place, under the article *Aquæ Sulphuræ* and *Thermæ*, he says, “these receive their name from their sulphureous impregnation and their heat. The three principal European hot waters are those of Aix-la-Chapelle, Bourbon, and Bath. The first abounds more eminently with sulphur, which makes its heat, nauseousness, and purgative quality, considerable. The second is of a middle nature. And the last, by not partaking so much of the sulphur, and more of the iron, is less offensive, and more agreeable in its operations.”

Likewise, the mistake so often made, of the Bristol water being a *lime-water*, is retained, notwithstanding the just analysis given in another place.

Having now examined the principal divisions of this work, we may add, that we think there is still room for the pruning-hook, though we doubt not that this has been liberally used in the successive editions. The affected mystery which appears in every part of the writings of such authors as Paracelsus and Van Helmont, and the absurd farrago of which many of their prescriptions are composed, should surely justify us in passing over in silent contempt many arcana, which wasted many of the hours of our laborious predecessors. Where is the spark of knowledge that can be got from such an article as the following? “DIEMEAC—a term in Paracelsus. It signifies a kind of spirit which he says resides in stones.” Or how are we benefited by being informed that DUBEL COLEPH means, “a composition of coral and amber,” or in finding “DOCLILETUS. Paracelsus names it as a medicine for the cancer, but he does not explain what it is”? It may even remain to be decided, whether much advantage is gained by retaining so many of the long-sounding names which Dioscorides thought proper to give to so many of his multifarious pharmaceutical compounds.

The plates which are added to the end of the volume are the same in number and matter as in the former edition: they are of unequal merit, but all of them sufficiently illustrative. Twenty-two of them are anatomical, five belong to the sub-



ject of midwifery, three to botany, and four to chemistry. The folio size of the volume allows of considerable clearness in the anatomical plates, so that they may be studied with advantage; and the work itself, notwithstanding the several omissions and imperfections, contains so large a proportion of valuable matter, and the contents of so many elementary treatises are poured into it, as to form a very useful compendium for the student, both to read and to consult.

ART. III. *Observations on Mr. Home's Treatment of Strictures in the Urethra; with an improved Method of treating certain Cases of those Diseases.* By THOMAS WHATELY, Member of the Royal College of Surgeons in London. Octavo. 112 pages. JOHNSON, London. 1801. Price 2s. 6d.

**B**EFORE the author enters into the consideration of Mr. Home's treatment of strictures by the caustic, he gives a short view of the methods practised by some other surgeons, especially by the late Mr. Sharpe and Mr. Hunter.

"As this disease, in most cases of stricture, is only a contraction of a single fold of the inner membrane of the urethra, which, when dilated by the common bougie, is known by experience to be very apt to return; I do not hesitate to say, that, if the application of the lunar caustic, to such of those strictures as cannot be sufficiently dilated by the common bougie, be found to prevent a return of the contraction, it will be advisable to use it with this intention, in many of those strictures which are readily dilated by the bougie; provided it can be applied to the strictured part only, and without incurring the risk of bringing on any serious consequences. I wish it to be understood however, that I do not recommend this remedy, in such cases, in preference to the bougie; as it does not hitherto clearly appear, either that the urethra is perfectly secured from a return of the contraction, even when enlarged by the caustic to its natural size; or, that this remedy can be yet applied with as much safety as a common bougie. I have no doubt, that the caustic may be so used, as to remove many of those strictures, of which Mr. Home speaks as incapable of being sufficiently dilated by the bougie. But I am far from being convinced, that this remedy, in the manner it is now used, is so safe as Mr. Home represents; and I doubt, whether it can be applied to the diseased part with so much nicety,



nicety, or in such exact quantity, as so tender and irritable a membrane requires.

“ As the seat of a stricture is out of sight, it is almost impossible to say, what are the precise effects produced by the caustic, in any case in which it is used. These must vary in different cases, according to the age and habit of the patient, and the quantity of caustic employed. If, however, so much of it be used, as to destroy the inner membrane of the urethra, (which is certainly its common effect) this part cannot be reproduced, without being for some days, at least, in the state of a wound or ulcer. And even in those cases where the membrane is not wholly destroyed, a very thin sloughing of its surface only being produced, a similar effect, though in a less degree, must take place. The part thus injured must therefore undergo a regular cicatrizing process, before the inner membrane of the urethra can be reproduced, and made as entire as it was previous to the application of the caustic. As we cannot mark the commencement, progress, or termination of these processes, in the application of this caustic to strictures of the urethra, we must observe the action of it on other parts, where we can see its progress and effect, and reason by analogy.”

The author next recites some experiments, in order to illustrate the effects of the caustic applied to the inside of the lip and urethra; after which he proceeds to point out the following defects and ill consequences which ensue, in his opinion, when the caustic has been used according to Mr. Home's method.

“ I begin with observing, that the orifice of the urethra is so small in some cases of stricture, as not to admit the smallest bougie I have ever seen armed with caustic. Of course, the caustic cannot be applied to the stricture, while it is in this state. This contraction may arise, either from a natural conformation of the part; or from its having been the seat of chancres; or it may have come on gradually, from the long continuance of a stricture in any part of the urethra. If the contraction arise from the first cause, it may often be remedied by dividing the web at the orifice of the urethra; but this must render the part for some time very tender, and in an unfit state to be stretched by a large bougie. A contraction from the second cause may frequently be dilated; though it must be confessed, that, in some of these cases, it is impossible to dilate it, so far as to admit even the smallest sized armed bougie for the purpose of applying the caustic. Of this I have lately had an instance.



In the third case, dilatation is generally practicable, and it will remove the difficulty.

“ When the caustic is enclosed in the end of a bougie, which is done for its security, as well as to prevent its touching the membrane of the urethra in its passage, there may be great uncertainty with respect to the quantity dissolved in any given time, arising from a difference in the quantity of mucus collected at its extremity, and likewise in the quantity of moisture that may act upon its surface in different cases. The experience of every one, who is accustomed to use the lunar caustic, must strengthen this remark. It is well known, that, in applying it to wounds or ulcers, we are sometimes obliged to wipe off the mucus two or three times from the surface of the caustic, before it will act with effect. The caustic bougie may therefore be sometimes clogged with mucus, either in its passage to the stricture, or in the constricted part; and as no means can be employed for removing this collected mucus, it must render the action of the caustic uncertain. Mr. Hunter, indeed, recommends a common bougie to be passed down to the stricture, previous to the use of the armed bougie; in order to clear the canal, and to measure exactly the distance of the stricture from the external orifice. By this contrivance, some mucus may adhere to the sides of the bougie, but it cannot readily remove all the mucus, which may be collected near the strictured part. There will indeed be always moisture enough to liquefy the caustic, yet the quantity of this must vary in different cases, and that may add a little to the uncertainty of its action. These circumstances, among others, may account for the frequent repetition of the caustic practised by Mr. Home.

“ Further, in using the caustic enclosed in a bougie, it is often applied only to the anterior part of a stricture, as, in many of the cases in which it is employed, this bougie is too large to pass the contraction. And as the natural action of the urethra propels either a fluid or solid within it towards its external orifice, so the caustic, when liquefied and applied to the anterior part of a stricture only, will indeed act first upon it, but the superfluous quantity will return, and act upon the membrane of the urethra in its passage. As a proof of the truth of this remark, I have seen this membrane at the external orifice of the urethra made white, where this mode of applying the caustic had been practised; and doubtless, the whole of the passage between its orifice and the stricture was in the same state: this effect may indeed be increased by the dis-

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solved state in which the caustic must be on withdrawing the bougie. The surface of the greater part of the urethra being thus irritated by the caustic, the pain and danger attending its use must be increased. Besides, by thus applying the caustic, it is prevented from acting on the whole of the strictured surface; and this probably is also a cause of its being repeated so often in many of Mr. Home's cases. For although the strictured membrane is harder and thicker than any other part of the urethra, and although this hardness and thickness may vary in different cases, and thereby require a greater or less quantity of the caustic, yet as the stricture is generally composed of a single fold only of the membrane, and as this caustic readily destroys any surface in other parts of the body destitute of its cuticle, we may be certain, that it acts in the same manner in the urethra under the same circumstances.

“ Again, it appears clear to me, that many of the serious consequences produced by the caustic are owing to its being repeated at too short intervals, and to the violence of forcing through the stricture those large bougies, in which it is generally enclosed. If a caustic be repeated every two or three days (as generally practised by Mr. Home), with the intention of destroying the membrane forming the strictured part, and thereby forcing a passage through it, without waiting for its gradual dilatation, it is to be feared that it will sometimes pass through a part of the substance of the corpus spongiosum. In support of this position, let me refer my reader to the plate which Mr. Hunter has given of a stricture; he will there see, that this effect may be produced, even though the stricture be not in a very advanced state, as the corpus spongiosum is, by the contraction, drawn into a line with that part which was originally the urinal canal. In order to enable such of my readers as are not in possession of Mr. Hunter's treatise, to compare this statement with the plate alluded to, I have copied it in the annexed engraving. Or if this effect be not produced, and the strictured part should only be forced open by the violent action of the bougie, yet by repeating the caustic, upon a surface already destitute of its membrane, the vessels of the corpus spongiosum may thereby be much injured. In either of these cases, there is a risk of bringing on a considerable hemorrhage.

“ I must observe further, that no attempt to force open a stricture on a sudden, especially if it be one that is narrow, can be made with safety; even though the membrane lining the strictured part be destroyed by the caustic, and the contracting



fibres set at liberty. The practice therefore of forcing a large armed bougie through a stricture, is to be reprobated, not only on account of the extreme pain it must occasion, but for a still stronger reason; it must inevitably do considerable injury to the parts, whereby serious consequences may ensue. It is indeed natural to conclude, that a passage which has been many years contracting itself (which is generally the case here) ought to be brought out of this state into the natural one, by gradual and gentle means only.

“ Again, passing the armed bougie into the bladder is, I conceive, highly objectionable, though a practice resorted to by that eminent surgeon, to whose works I have so frequently referred. I hope I do not misunderstand him, for indeed, in some of his cases, it is difficult to say, whether he speaks of the common or the armed bougie. In the following quotations, however, he is sufficiently explicit—‘ But the fourth application (with the caustic bougie) destroyed the remains of the obstruction, and this large bougie went on *to the bladder.*’ Again, ‘ The caustic was applied upon a bougie larger than one which had stopped at the stricture. After remaining there some little time, this bougie went on to the bladder, which shewed that a spasm had stopped the other, and that the caustic removed the spasm.’ The following is another quotation on the subject—‘ There was another (stricture) at six inches, which was also removed by two applications, and the bougie went into the bladder, but in doing so gave considerable pain.’ In another place he says, ‘ The caustic was applied to this four times before it went into the bladder.’ In almost all the cases recorded by Mr. Home, this practice, if I mistake not, seems to be adopted; but it is certainly adding to the pain, and increasing the risk, to pass the bougie armed with caustic, for about an inch and a half, or two inches, over the most irritable part of the urethra, and over the mouths of the seminal ducts, and those of the prostate gland, into the bladder; as it cannot be thus passed, without carrying with it more or less of the liquefied caustic.

“ My next objection to Mr. Home’s practice is, his applying the caustic to several strictures in the same patient. From the quotations already made from Mr. Hunter, and his opinions, I apprehend, correspond with the experience of every surgeon, who is well acquainted with the nature of strictures, it clearly appears, that, in the greater number of all the cases of stricture that occur, *one only*, as Mr. Hunter expresses it, becomes the object of our attention. That is, the others are generally smaller



smaller strictures, and, by Mr. Home's confession, are 'the consequences of one which has been formed for a longer time near the bladder.' If, therefore, the original stricture be removed, these consequent ones may, in general, be dilated by a common bougie, as Mr. Hunter recommends. However necessary therefore it may be, to apply the caustic to the original stricture, it cannot be *generally* advisable to excite the pain, and incur the hazard, of dilating the smaller strictures, by destroying the inner membrane of the urethra by this powerful remedy. I have, therefore, seen with surprise, that Mr. Home has applied the caustic to two or more strictures, in almost all the cases he has related. I can, in some measure, account for this practice, by his using the caustic in a large bougie, which of course would not pass down to the original stricture, unless the secondary ones were previously removed.

"Notwithstanding what has been advanced, I do not assert, that there are no cases, in which the caustic ought to be applied to two or more strictures in the same person. I am aware, that this practice may be necessary in some strictures of very long standing. I mean that it is too general; being firmly persuaded, that it is used in cases, which might be relieved by the common bougie."

Some extracts then follow from Mr. Home's work, proving that hæmorrhage is a very common effect of the mode he adopts in applying the caustic; and those hæmorrhages, the author observes, "are brought on, either by the large caustic bougie bursting the inner membrane of the urethra, and forcing itself into the substance of the corpus spongiosum; or by the caustic being applied so frequently, or in such quantity, as suddenly to destroy this membrane, and thereby expose the vessels of this vascular part.

"Before I dismiss my remarks on Mr. Home's dissertation, I must beg leave to observe, that more caution, than he recommends, seems to be necessary, in applying the caustic to strictures, in aged and infirm people; particularly those of this class, who are suspected of having a stone either in the urethra, or in the bladder. Subjects of this kind are not so able to bear violent remedies, as those who are younger, or have no other disease, with which to contend. In all these cases, the caustic should be the last resort; every possible effort should first be made by the common bougie, to dilate the strictures, in order to procure an easy passage for the urine, and to facilitate the examination of the urethra and bladder by proper instruments. If it should be found absolutely necessary, to use  
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this remedy on such subjects, it should be employed in smaller quantity, and be repeated less frequently, than in young ones. It is evident, that in some of the cases related by Mr. Home, in which stones were lodged in the urethra, the patients suffered by a more frequent repetition of the caustic, than would have been thought proper, had this circumstance been discovered earlier."

We now pass on to Mr. Whately's own mode of treating strictures in the urethra by the caustic; premising, that he enjoins us, as an invariable rule, "to endeavour to dilate all strictures by means of common bougies, before any attempt be made with the caustic to effect their cure." This rule of practice, we believe, was always recommended by Mr. Hunter.

"According to our present experience," says Mr. W. "I would confine the practice of applying this remedy altogether to such strictures of the urethra as are either utterly impervious, or so contracted as to be incapable of dilatation by the common bougie: for the urethra, even in its healthy state, being tender and irritable, and connected with parts of great importance in the system, all violent remedies should be very cautiously applied to it.

"One of the objections made to the use of caustics, for removing strictures of the urethra, is the impracticability of confining their action to the constricted part. But, I must confess, I do not perceive the force of this objection; for I think, that they may be almost always applied to such part with great nicety."

In order to answer the ends which the author has in view, he directs us "to touch an eighth, or from that to a quarter of an inch, of the end of a bougie of any size with a small brush dipped in common glue, as used by mechanics; and let the coating of glue be as thin as possible. The glued end must be immediately applied to a given quantity of powdered lunar caustic, put upon a piece of writing paper; this should be done, by alternately putting its different sides to the caustic, until the whole of it adheres. The bougie in this state must be laid in some dry place to harden, which effect will take place in a few hours. When it is sufficiently hardened, the glued end must be gently rolled to and fro upon a table, with a bit of smooth wood, about four inches square, till it is perfectly level and smooth. If the bougie be very hard, or the weather cold; this end should be previously warmed a little by a fire. The part thus covered with caustic should then be very lightly rubbed with a bit of bees wax, with the intention of giving



giving it a very thin coating of this substance. After this, let it be kept for use in a glass vessel well closed.

“ The advantages attending the caustic bougie prepared in this manner are obvious.

“ In the first place, the bougie may be of any size ; even the smallest size can, by this method, become the vehicle of this powerful remedy ; and may be readily passed into, or a little beyond, such strictures as are extremely narrow ; or such, as are attended with a considerable contraction of the orifice of the urethra.

“ Secondly. From the protection afforded by the wax coating, no part whatever of the caustic touches the sides of the urethra in its passage to the stricture.

“ Thirdly. A determinate quantity of the caustic may be applied with certainty.

“ Fourthly. The caustic cannot be separated from the bougie.

“ Fifthly. The caustic may be made to act on the whole surface of the stricture at each application.

“ Sixthly. Where there are more strictures than one, and it is thought advisable to attend to one only at the first, the caustic may be directed, and confined in its action, to any particular stricture, upon which the practitioner may wish it to operate in preference to the rest.

“ Seventhly. Fixing the caustic with glue has this additional recommendation ; we can attach it with perfect safety to the very extremity of a bougie, and thereby apply it with more certainty to an impervious stricture, than is practicable with the common armed bougie.

“ When we have determined to use the caustic bougie thus prepared, the distance of the constricted part from the extremity of the penis should be accurately measured, in order to apply it with certainty to this part only. This may be done with a common bougie. The exact size of the canal at the part should likewise be ascertained by the same instrument. This in general may be readily done. They who are used to pass a bougie of a proper size through a stricture, can always tell when the point of this instrument is about to enter it. When it first touches the stricture, it generally stops ; but on pressing the bougie gently on, it evidently feels as if its point entered a passage, which embraces it on every side. The bougie passes on afterwards more or less freely, according to the size of its upper part, and the openness of the passage beyond the stricture.

“ Having



“ Having ascertained these points, it will be proper to choose a bougie armed with caustic, in the manner already mentioned, of a size rather less than the constricted part. A piece of fine white thread should then be tied round the bougie, at the exact distance of the stricture from the end of the penis, and another thread a quarter of an inch nearer the external end. By the first of these marks it will be known with great accuracy, when the bougie enters the constricted part; and the second will determine how far it is pushed beyond it. This armed bougie (previously oiled) may now be passed down to the stricture, and about the eighth of an inch into it, and continued in this situation from five to ten minutes, now and then alternately moving it forward and backward, about the eighth of an inch each way, in order to wipe off any mucus which may have collected upon the caustic, and to assist in wiping off the caustic itself. On withdrawing the bougie, all the caustic will be found to be dissolved; whence we may fairly conclude, that it has been expended entirely on the constricted part.

“ If the stricture be open enough to admit a bougie of a moderate size, such a bougie, armed with caustic, may very readily be passed into it, or a little beyond it; but, if the stricture admit only a very fine bougie, and cannot be dilated so as to receive one of a larger size, great care should be used in passing a caustic bougie of a small size into the stricture. For if this should not be effected, and its extremity be bent in endeavouring to push it forward, much effect cannot be expected from the caustic, as it will be dissolved at a part of the canal anterior to the stricture. From what has been said, it is evident, that the success of applying the caustic by this method will depend very much upon the nice manner in which it is performed.

“ With respect to the quantity of caustic, which ought to be applied to a stricture, I am convinced, that, on the first trial, it should in no case exceed one twelfth part of a grain. Let a grain of lunar caustic, very finely powdered, be divided into twelve equal parts; put each of them into a separate piece of writing paper; then apply one of these portions, by means of the blunt end of a moistened probe, to the surface of any ulcer, or to the membrane of the mouth, or the inner membrane of the urethra near its orifice, by alternately putting the probe to such part and to the caustic, until the latter is consumed; and it will be found, that even this small quantity will produce a slough from the part, nearly equal in extent to a seven shilling piece. If therefore, this quantity only be applied to a  
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simple stricture, consisting of a single fold of the inner membrane of the urethra; it must certainly produce a superficial slough from it, and thereby assist in destroying or setting at liberty the contracted fibres. If it be found, that, by two or three applications, this quantity of caustic has no effect in destroying the strictured membrane, and that it gives little or no pain in its application; it may be cautiously increased, to an eighth, a quarter, or even, in some bad cases, to half a grain; at each application. I am persuaded, however, from the size of the eschar, which it will make on the surface of an ulcer; that the latter quantity should not be employed, unless in cases of the most pressing necessity. The smaller quantities will, I have no doubt, generally answer the intended purposes. And even where the strictured part is more hard and callous than usual, a repetition of these quantities must destroy the diseased surface. If the disease readily yield to small quantities of the caustic, it is certainly unnecessary, and imprudent, to use larger, even though the stricture might be thereby destroyed in less time. But if, on the contrary, we do not gain ground in a reasonable time by the smaller quantities, we may proceed to the larger, provided there are no peculiar circumstances, to forbid their use.

“ In forming an idea of the degree of pain, which a caustic may give on being applied to a stricture, we cannot judge merely from knowing the degree of sensibility of the urethra in its natural state: there are other circumstances to be taken into the account. For example; if the passing a bougie along the urethra give much pain, or if the pain be greatly increased; when its point touches the strictured part, and especially if the end of the glans be much inflamed; we may conclude, that the whole membrane of the urethra, and particularly that part of it which forms the stricture, is in a state of inflammation; and consequently more likely to give pain on the application of the caustic, than where these parts are in a more indolent and less irritable state. Further, when the secretion or gleet is greater than usual, and accompanied with an irritable state of the urethra; this is another proof, that the vessels of the strictured part in particular are in a state of excitement. The presence of any of these symptoms of irritability should therefore lead us to proceed with great circumspection in the use of the caustic.

“ When there are more strictures than one, that require the use of the caustic, it will be the safest and best practice, to apply the caustic to one stricture only at a time.



“ Having pointed out a mode of applying with certainty a determinate quantity of caustic to a stricture of the urethra; two questions present themselves to our notice: first, how often should the caustic be repeated? and secondly, ought we to assist this mode of cure, by the use of the common bougie in the intervals of the application of the caustic, or not?

“ From what has been before advanced, respecting the time required to heal an ulcer in the mouth, or one near to the orifice of the urethra produced by this caustic, it is unquestionably advisable, not to repeat this application to a stricture too frequently; especially as it appears, that many of the ill consequences, in Mr. Home’s method of applying it, have arisen from this practice. It is not possible, however, in all cases, to fix the precise time, which ought to intervene between the repetitions, even when the same quantity of caustic is employed; as this remedy must vary in its effect in different cases, according to the age of the patient, the strength of action in the parts, and other circumstances. When the caustic brings on a sudden and frequent desire to make water, with a straining propensity to void more after the bladder is emptied; which symptoms (especially where they continue for several days together) generally indicate inflammation in the neck of the bladder, and are also commonly produced by other irritating applications to the urethra; or when any other symptoms of irritation or inflammation are brought on by the caustic; I am clearly of opinion, that it ought not to be repeated, until they have completely subsided. Besides, as it has been proved, that the application even of a very small portion of caustic will destroy the inner membrane of the urethra, we ought certainly to wait, in almost every instance where it is applied, until this membrane is reproduced, before the caustic is repeated: since, beside the risk already mentioned of producing a hæmorrhage, it must give more pain, and incur greater hazard of exciting inflammation, in being applied to a surface destitute of its membrane, than when it is entire. Although the twelfth part of a grain of lunar caustic will destroy a portion of the inner membrane of the urethra, yet this quantity cannot always be expected to penetrate through this membrane in old strictures, where the part is thickened and indurated: and as the ulcer produced by this quantity of caustic must be very superficial, in comparison of what it would be, were the caustic applied in a much larger quantity; it may be advisable, in some cases, to repeat this quantity of the caustic more frequently, than when a larger quantity is employed. I do not think, however, that  
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even this small quantity should in any case be used oftener than once a week or ten days, or the larger quantities oftener than once a fortnight; and in aged and infirm subjects, certainly at longer intervals."

The author advises us, after each application of the caustic, "to dilate by the common bougie, in the manner in which it is employed in ordinary cases. If, on one application of the caustic, the stricture cannot afterwards be opened nearly to the natural size of the canal, it should be reapplied, and after this a fresh attempt to dilate should be made by the bougie. Thus we may proceed, alternately using the armed and the common bougie, till the stricture is completely dilated; but we ought never to repeat the caustic, as long as the stricture keeps yielding to the common bougie.

"Upon the whole then, it appears obvious to me, that, if the lunar caustic be used, under certain exceptions, to such strictures only, as cannot be sufficiently dilated by the common bougie; and if the application be made directly to the constricted part itself, in a small quantity at first, and not repeated too frequently, while the common bougie is employed in the intervals; we shall find it perfectly safe, and, at the same time, of such superior efficacy, that it will be scarcely possible to calculate the good which may arise from its use in bad cases."

These observations are accompanied with the relation of four cases, in which the author applied the caustic in his own way; but, as these cases do not, in our opinion, establish the eligibility of Mr. Whately's practice above that of Mr. Home, we wish to be furnished with a greater number of facts on which to ground our determination. Several variations have been proposed, by different gentlemen, in the mode of applying caustic bougies, &c. to strictures of the urethra; although none of them have been supported by so large a number of successful cases as that against which they object.

Mr. Whately's book appears, on the whole, to be written with great candour.

#### ART. IV. WILSON'S *Treatise on febrile Diseases*, Vol. III.

(Concluded from page 43.)

THE subjects which still remain to be considered in this volume are OTITIS, ODONTALGIA, and the different species of CYNANCHE,



“Inflammations of the ear and of the teeth and neighbouring parts, like inflammation of the eye, are for the most part unaccompanied by fever; the latter, indeed, almost uniformly so, and rather belong therefore to simple inflammations than to simple phlegmasiæ.”

OTITIS the author defines “Phlegmasia cum dolore auris internæ, sæpe cum delirio.”—“This definition,” he observes, “only applies to otitis accompanied with fever.

“Otitis is produced by the same causes with other inflammations, by none more readily than partial exposure to cold.

“In the treatment of otitis we proceed on the same principles as in that of ophthalmia. While it is merely a local affection, local remedies alone are necessary, if we except gentle cathartics for the purpose of removing any cause of irritation lodged in the primæ viæ. Local blood-letting, and blisters applied behind the ear, are the means to be chiefly relied on. As the inflammation is confined to the external parts, warmth applied at an early period to the internal ear and its neighbourhood often brings relief.

“If the pain is not soon abated, and still more if it continues to increase, we may expect suppuration. When however the pain has been confined to the ear, and there is little or no fever, suppuration is not to be dreaded. When the abscess bursts, the matter is discharged by the meatus auditorius externus. It is then proper to syringe the ear from time to time with some mucilaginous and gently astringent decoction.”

Where the head is much affected, and delirium, coma, and convulsions supervene, the most powerful means, such as are used in phrenitis, must be employed; suppuration generally relieves those symptoms, and the effects of this are more formidable in the more violent than the milder cases of otitis, destroying occasionally the whole structure of the internal ear, and giving rise sometimes to troublesome fistulous ulcerations.

ODONTALGIA belongs entirely to the class of local diseases, and requires, in general, only local remedies. “Where the tooth is apparently sound, a large dose of opium may be tried previous to extraction. This will always afford temporary relief, and, by promoting the perspiration, if the complaint rather proceeds from cold than any fault of the tooth, will often entirely remove it. A small dose, by quickening the circulation, often does more harm than good. When tooth-ache arises from the state of the stomach, an emetic will frequently give relief; and in such a case as that just alluded to, where



where it has become habitually connected with the state of the stomach, stomachic medicines, particularly bitters and steel, afford a probable chance of a cure.

“ The means of preventing the tooth-ache, which is always sooner or later attended with decay of the teeth, demand serious attention. I believe they may all be arranged under three heads, cleanliness, means of obviating the effects of cold, and those of strengthening the gums.

“ To keep the teeth perfectly clean, they should after every meal be freed of the small pieces of aliment which often lie between them, till they putrefy, and thus hurt the enamel. The concretion which is apt to form on the teeth should be prevented by carefully brushing them, and as soon as any appears it ought to be removed.

“ The effects of cold on the teeth are best obviated by habituating them to its application, which may most effectually be done by washing the mouth repeatedly every morning with cold salt and water.

“ If the tendency to tooth-ache proceeds from a fault in the gums, this must be corrected by strengthening the system in general, and frequently washing the gums and applying to them astringent powders. The powder of bark is one of the best.”

Dr. Cullen, in his *Nosology*, makes five species of *Cynanche*, viz. the *Tonsillaris*, *Maligna*, *Trachealis*, *Pharyngea*, and *Parotidæa*; but the author considers the *tonsillaris* and *pharyngea* as mere varieties of the same complaint. His definition of the whole is the following: “ *Phlegmasia pulsu plerumque valido et duro, nonnunquam debili, cum rubore et dolore faucium, respiratione et deglutitione difficili, cum angustia in faucibus sensu.*”

The first species, *CYNANCHE TONSILLARIS*, includes the inflammation of the tonsils, *velum pendulum*, *uvula*, *pharynx*, and *œsophagus*. He defines it, “ *Cynanche, membranam faucium et pharyngis mucosam præcipue tonsillas tumore et rubore afficiens, deglutitione difficili nonnunquam dolentissima, pulsu valido et duro.*”

“ The *cynanche tonsillaris* generally begins with an uneasy sense of tightness about the fauces, which, when the inflammation occupies the pharynx, is deeper seated than when it occupies the tonsils and neighbouring parts.

“ The deglutition soon becomes more or less difficult and painful; in the former case more so than in the latter, for, while the inflammation is confined to the tonsils, *velum pendulum palati*, and *uvula*, the pain is rather while we are preparing  
to



to swallow, or in the very first act of swallowing, than during deglutition. In most cases, however, more or less of the inflammation spreads to the pharynx, and then the pain peculiar to both forms of the complaint is perceived.

“ On inspecting the fauces, the parts, as far as the inflammation extends, appear swelled, and of a more florid red than natural ; and here and there, particularly on the tonsils, small white or yellow specks are often observed. While these remain of a light colour, and the pulse continues sufficiently strong and full, they never indicate danger.

“ The inflammation is generally confined to the parts which can be brought into view ; it sometimes however extends along the œsophagus, which is known by the greater difficulty and pain of swallowing, as well as by the seat of the pain. In some rare cases, we have just seen, the inflammation is wholly confined to the œsophagus. In these no morbid appearance presents itself on inspecting the fauces.

“ Whether the œsophagus be primarily affected, or the inflammation has spread to it from the fauces, it is a very alarming accident.”

Sometimes the inflammation attacks the tongue, which becomes swelled to an enormous size. The pain is generally greater in swallowing fluids than solids ; and in particular the saliva, whether natural or vitiated, is swallowed with much pain. “ The pain is generally greatest when the patient attempts to swallow lying on the back ; and when the œsophagus is much affected, the pain is often felt chiefly in the back, and is of the same kind with that produced by any acrid or bulky substance passing along the œsophagus, which most people have experienced.

“ If the pharynx is much affected, and still more if the complaint has spread to the œsophagus, when the patient attempts to drink, the fluid, instead of passing to the stomach, is often returned by the mouth, thrown through the nose, or into the windpipe, exciting a violent fit of coughing.”

The inflammation in cynanche is not apt to spread to the stomach ; when it spreads to the trachea the danger is very great, and it occasions cynanche trachealis.

The ear is frequently affected with noise, pain, and deafness, and the whole face sometimes partakes of inflammation. “ The difference between the symptoms of cynanche occupying the tonsils, velum pendulum palati, and uvula, and that occupying the pharynx, consists chiefly in the former being often attended with some difficulty of breathing, on account of its having  
its



its seat in the passage which the air takes to the lungs ; and in the latter being attended with more difficulty of swallowing, from its affecting parts more essentially concerned in the act of deglutition.

“ In cynanche pharyngea, we have seen the inflammation sometimes spreads to the œsophagus, and the deglutition is wholly interrupted. On this account the cynanche pharyngea is a more dangerous complaint than the cynanche tonsillaris strictly so called. For the most part, it is only as the latter shews a tendency to be accompanied by the former, or by the cynanche trachealis, that it is attended with much danger. It is very rare for the swelling of the tonsils, velum pendulum, and uvula, to increase till it occasions suffocation. This however has sometimes happened.”

The febrile symptoms in this complaint occasionally run very high ; the termination may be in any of the ways of inflammation, but resolution and suppuration are the most common.

The causes of cynanche tonsillaris are not different from those of other inflammations.

“ There is a striking resemblance between the treatment of the inflammatory sore throat and ophthalmia ; the chief difference arising from the nature of the part affected, and from the former being more frequently a febrile disease.”

“ In many cases of cynanche tonsillaris we employ only local means,” consisting of remedies applied either to the internal or external fauces ; those applied to the internal fauces are principally gargles, which the author divides into four classes, “ according to the different objects we have in view in employing them. 1. Those employed for the purpose of procuring resolution. 2. Those proper when suppuration is unavoidable. 3. Those proper when the abscess has burst spontaneously, or been laid open ; and, 4. Those which are necessary when a tendency to gangrene has supervened.”

“ In the use of the first class our object is,” says the author, “ by their stimulating, and what has been called cooling properties, to diminish the inflammation ; by their mucilaginous property to defend the parts when the saliva is thin and acrid ; and by their detergent quality to cleanse the parts when clogged with thick viscid mucus.”

Acids of various kinds, neutral salts, several of the gums, various acrid, astringent, and mucilaginous substances, he enumerates as likely to fulfil those objects. A mixture of honey, and the marine or sulphuric acids applied with a pencil, will



will often have the effect of increasing the flow of saliva, and thus diluting and washing off the mucus with which the fauces are loaded.

When we wish to promote suppuration, warm emollient gargles are most efficacious. "After the abscess has burst, our view is to dispose the parts to heal; the nemollient and gently astringent gargles are the best." If a tendency to gangrene should appear, we must immediately have recourse to antiseptic gargles, of which the best is that of bark and port wine. For the other parts of the treatment in gangrene, the authors refers to the chapter on *Cynanche maligna*.

In the more severe cases of *cynanche tonsillaris*, the gargle should be thrown in by means of a syringe, or gently dropped upon the parts affected. When the inflammation is slight, the gargle may be cold, it is then of little consequence indeed whether it be cold or tepid; when the inflammation is more severe, it should be of the same temperature with the body. If we are endeavouring to promote suppuration, its temperature should be higher.

Of the external local applications, the liniment. ammoniæ and blisters are very serviceable; but the most efficacious are bleeding in the neck by means of leeches, or cupping. When suppuration is indicated, it should be encouraged by poultices. With regard to the general treatment, every part of the antiphlogistic regimen is necessary, and should be more or less strictly enjoined, according to the degree of general excitement. Dilution is serviceable, but where deglutition is very painful, the author recommends frequent and copious clysters.

Emetics, in the beginning, frequently interrupt the progress of the complaint, and given later will make an abscess in the pharynx burst, which the surgeon could not reach. In the milder cases, a gentle saline cathartic only is proper; in the more severe, we ought to produce greater evacuations; and for this purpose mercurial purgatives are the best. General blood-letting is seldom necessary, unless when delirium or coma are present. Diaphoretics are extremely useful, and opium may be given earlier than in most others of the phlegmasiæ.

When gangrene is come on, we must have recourse to bark and wine; and if they cannot be swallowed, they must be given by clyster. To remove the relaxation of the parts which this disease leaves, astringent gargles are useful.

The author concludes this part of his subject by some observations on interrupted deglutition. This, he says, may proceed



ceed either from swelling of the œsophagus, from scirrhus, from swelling of the glands, particularly in scrophulous habits, or from spasm.

“ In the first case the most powerful antiphlogistic, particularly local, remedies can alone be of service. In the last, which frequently occurs unaccompanied with cynanche, but is most apt to supervene while this complaint is present, a great variety of remedies have been recommended; few of which however have been found of much service.”

Emollient and oily applications used externally, and antispasmodics, have been the most useful. When the dysphagia arises from a scirrhus of the œsophagus, bougies of a proper size may be used with effect, and when from a swelling of the lymphatic glands, the medicines employed in scrophula.

The author now enters upon the consideration of **CYNANCHE MALIGNA**. He considers the definition of Cullen as sufficiently accurate; it is the following: “ Cynanche tonsillas et membranam faucium mucosam afficiens tumore, rubore, et crustis mucosis coloris albescentis vel cineritii, serpentibus et ulcera tegentibus; cum febre typhode et exanthematibus.”

Much has been said, he observes, upon the distinctions between this complaint and scarlatina anginosa; but a discussion of this kind loses much of its importance, when it is considered that any distinctions which may be made out between them are useless in practice; for if the symptoms of the two complaints run imperceptibly into each other, the same is true of their modes of treatment; and there is no difficulty in adapting the means we employ to any case, according to the degree in which the one or other set of symptoms prevail.

The author gives a very detailed and accurate account of the symptoms of cynanche maligna, in which he first considers the manner in which the disease makes its attack. 2. The symptoms arising from the affection of the fauces. 3. The other symptoms which attend this affection. 4. The various appearances of the eruption.

This disease, in its mild form, frequently begins as simple fever, followed by a stiffness of the neck, and redness and swelling of the fauces. This affection of the fauces is, however, in many cases, the first symptom; but when, along with these symptoms, the patient complains of severe headach, especially a pain in the crown of the head, violent pains of the back and limbs, or pain in the stomach, with nausea and vomiting, or with diarrhœa; when, instead of slight giddiness of the head, he is affected with coma or delirium; when the eyes



are heavy and watery, the countenance either full and bloated, or pale, shrunk, and dejected; when the patient complains of an unusual sense of oppression and debility; when the pulse is small, irregular, or tremulous, whether frequent or not, (Quarin observes, that the pulse is sometimes less frequent than natural at the commencement of *cynanche maligna*,) or full, heavy, undose, and unequal, as Huxham expresses it; when the breathing is small, hurried, anxious, and interrupted with sighing; when the urine is quite limpid, or very high coloured and turbid; when the sensation in the fauces is rather that of an uneasy stiffness than of pain, the deglutition being little impeded; when the internal fauces appear of a dark red with brown spots, the tongue, especially towards the root, being loaded with much viscid white mucus; when an eruption of small red pustules or purplish blotches appear on the skin soon after the commencement, or at the very commencement, for in the worst cases of *cynanche maligna* the eruption has been known to be among the first symptoms, the prognosis is bad."

The attack of the disease is, however, very deceitful, so that symptoms, favourable in appearance, do not always prove so. "The strength is often not much impaired at the beginning, not always, indeed, in the progress of the complaint." Sometimes the temperature of the body is hardly greater than natural; and sometimes, it has been said, no fever, or a very slight one only, has appeared.

When the breathing is much affected, it denotes that there is a combination of this complaint with *cynanche trachealis*; the prognosis principally depends on the state of the throat at every period of the disease. "However florid and free from specks the fauces may appear at the commencement of the *cynanche maligna*, they soon assume a dark red, and specks of some shade between a light ash colour and a dark brown appear scattered over the tonsils, *velum pendulum palati*, and *uvula*. The lighter the colour of the specks, the better is the prognosis."

The swelling is sometimes considerable, but seldom so much so as in *cynanche tonsillaris*. As the sloughs spread, they generally become of a darker colour, the interstices at the same time assuming a purple hue; new specks appear, and the whole internal fauces are at length covered with thick sloughs, which frequently fall off, discovering ulcers sometimes very deeply seated. "In the worst cases, the fauces at length appear quite



quite black, mortification having taken place, and pieces of mortified flesh fall off from them, and are spit out."

Delirium and coma generally come on in the course of the disease; the eyes are languid, and sometimes suffused with blood; the pulse becomes more depressed, diarrhœa supervenes, and sometimes hæmorrhagies from the intestines. There is an appearance of evening exacerbation. The ulcers sometimes spread to the trachea and alimentary canal, and the inflammation occasionally seizes the Eustachian tube and the various glands in the neighbourhood of the fauces. This disease generally arrives at its height about the fifth or sixth day, and in cases which terminate favourably declines in five or six days.

The author now enters into a long consideration of the eruption occurring in cynanche maligna, and a comparison of this disease and scarlatina; these observations we must, however, pass over, and proceed to the treatment of cynanche maligna.

In the use of gargles we have two purposes to serve: "we must frequently wash out the acrid matter secreted in such quantity, which, if allowed to remain in the fauces, at once occasions the spreading of the complaint and disposes to gangrene, and, if swallowed, produces still worse effects; while we must, at the same time, more directly counteract the tendency to gangrene by the stimulating property of the gargle."

It is necessary, however, to defend the fauces from the action of the gargle, by combining with it a mucilage; astringents are improper: the most serviceable as the bases of acrid gargles are the capsicum, myrrh, marine acids, wines not astringent, or diluted alcohol in any other form; "except where our view is particularly directed to increase the secretion from the fauces, a mixture of port wine and finely powdered bark, or the watery extract of bark dissolved in port wine, is perhaps the best gargle we can employ."

If, after the use of such gargles, the sloughs do not begin to separate, we should touch them with the *mel æruginis*, the powder of myrrh, alum, or the marine acid mixed with honey; local blood-letting, blisters, and rubefacients, are of very doubtful utility.

On the general treatment the author observes, that when the excitement runs high the diet ought to be cooling and diluent; but in the majority of cases the excitement is too languid, and requires support, for which animal broths or infusions, as mentioned in the first volume of his work, are best adapted. General blood-letting and purging are both of them disservice-



able; the bowels should be kept open by clysters, and towards the end of the disease, when the bowels are irritated by putrid colluvies, we should employ gentle cathartics only for their removal. Emetics are not serviceable, except at the very commencement of the complaint; diaphoretics are sometimes of use, particularly the preparations of opium, as they tend to procure sleep and check the tendency to diarrhœa.

The most powerful cordial medicines, and indeed those which have superseded the use of almost all others, are bark and wine, the rules for exhibiting which are the same as in typhus, except that the bark is given in as large a quantity as the stomach can bear, on account of the presence of gangrene: the powder is always the best preparation.

The capsicum has also been given as an internal remedy in this complaint. Mr. Steuard (*Medical Commentaries*, vol. xii.) was one of the first who prescribed the capsicum internally in the cynanche maligna. He directs two table-spoonfuls of the small red pepper, or three of the common Cayenne pepper, and two tea-spoonfuls of fine salt, to be beat into a paste, on which half a pint of boiling water is poured, and strained off when cold; an equal quantity of very sharp vinegar being added to this infusion, a table-spoonful of the mixture every half hour is a proper dose for an adult; and to this, we are informed, cases yielded which had resisted the bark and wine. Under Mr. Stephen's care it was also exhibited with the best effects to four hundred patients, and seemed to save some whose state was thought desperate before they had recourse to it.

On the treatment of diarrhœa, and vomiting occurring in this complaint, nothing need be added to what has been said elsewhere. Hæmorrhage requires the patient to be kept cool, the bark and wine to be increased, and astringents to be applied as near as possible to the bleeding vessels. For the suppression of urine, which sometimes occurs in this complaint, as it is generally a symptom of debility, the invigorating plan must be pushed as far as possible; mild clysters and emollient fomentations are sometimes useful: in preventing this symptom, the patient should frequently be reminded of emptying the bladder.

The CYNANCHE PAROTIDÆA is described by Dr. Cullen, and by the author, as that species of cynanche in which there is great external swelling from an enlargement of the parotid and maxillary glands, the respiration and deglutition being little disturbed, and the fever, for the most part, a gentle synocha.

“ The



“The prognosis,” the author observes, “is uniformly good, with one exception, which is the only case that requires any particular attention.

“Towards the termination of the cynanche parotidæa, that is, about the fourth day, when the swelling of the glands about the fauces begins to abate, some degree of tumor frequently affects the testicles in men, and the breasts in women. Sometimes, though not frequently, they become very hard and painful, in general however with little fever.

“But it now and then happens, either when the tumor of the breasts or testicles does not succeed that of the glands about the fauces, or when the former does succeed the latter, but suddenly recedes, that the fever, which has been very mild from the beginning of the complaint, and which generally abates when the swelling of the fauces begins to recede, suddenly becomes considerable, is sometimes attended with delirium, and has even proved fatal.

“This species of cynanche, like the last, is frequently epidemic, and evidently arises from contagion. Children are the most frequent subjects of it. I have seen hardly one escape it, in a school of about five hundred boys.

“In its usual form it hardly requires any particular mode of treatment. If we except a cooling cathartic, avoiding animal food and exposure to cold, is all that is necessary.”

When the train of symptoms now alluded to supervene, it requires more attention; but the treatment does not differ from that of common synochus, in which the same degree of excitement prevails, with the addition of local remedies, to bring back the swelling to the breast, or testicle, if it has receded.

We have thus finished our account of the diseases which have come under the consideration of the author in this third volume of his work, and have derived much pleasure from the accurate and circumstantial histories given by him, and from the judicious treatment he recommends. His nosological remarks are made with judgment, and no pains have been spared by him in his selections from the best practical authors.

His Appendix contains various experiments on the nature and quantity of the deposition from urine in various states of the body, and also a few remarks on febrile anorexia. From the experiments made by him he concludes, 1st, That any cause obstructing perspiration produces a greater than ordinary precipitation of lithic acid from the urine. 2dly, That the same precipitation is, *cæteris paribus*, increased by acescent diet,



diet, and much diminished by using a large proportion of animal food. 3dly, That by the inactivity of the skin and kidneys, an accumulation of acid may take place in the system, only to be thrown off by restoring their action. 4thly, That by the use of diaphoretics, we can often entirely prevent the deposition of lithic acid from the urine, causing in its stead that of the cream-coloured sediment.

The observations on febrile anorexia, all of which were made on himself, seem to the author to prove, that appetite for food depends upon the presence of gastric juice in the stomach, and that anorexia is produced by the want of it. He considers it probable, that "the presence of the gastric liquor in the stomach, without such substances as are fit for combining with it, and thus destroying its activity, is a principal cause of that death which is occasioned by hunger;" and that doses of the gastric juice of animals, whose food is similar to that of man, as has been recommended by an Italian physician, might be useful in some cases of dyspepsia where there is much anorexia.

ART. V. *The Origin of the vaccine Inoculation.* By EDWARD JENNER, M. D. F. R. S. &c. Quarto. 8 pages. SHURY, London. 1801.

NO one who has at all attended to the subject of vaccine inoculation, can be ignorant of the leading circumstances which have contributed to render it so highly interesting both to the medical world, and to the public in general; and no candid person will for a moment hesitate to ascribe the merit of a most valuable discovery *exclusively* to him, who first rescued it from obscurity, and sanctioned its public use by a series of well-instituted experiments.

The few pages of which the pamphlet before us is composed, contain a concise account of the progress of the inquiry undertaken by Dr. Jenner towards investigating the nature of the cow-pox, which the author introduces by the following short prefatory notice: "I am induced to give the following concise History of the Origin of vaccine Inoculation, from my frequently observing that those who only consider the subject cursorily, confound the casual cow-pox with the disease when excited by inoculation."

The author begins by informing his readers of the circumstances which directed his inquiry to this subject. He says, "My



“ My inquiry into the nature of the cow-pox commenced upwards of twenty-five years ago. My attention to this singular disease was first excited by observing, that among those whom in the country I was frequently called upon to inoculate, many resisted every effort to give them the small-pox. These patients I found had undergone a disease they called the cow-pox, contracted by milking cows affected with a peculiar eruption on their teats. On inquiry, it appeared that it had been known among the dairies time immemorial, and that a vague opinion prevailed that it was a preventive of the small-pox. This opinion I found was, comparatively, new among them; for all the older farmers declared they had no such idea in their early days—a circumstance that seemed easily to be accounted for, from my knowing that the common people were very rarely inoculated for the small-pox, till that practice was rendered general by the improved method introduced by the Suttons: so that the working people in the dairies were seldom put to the test of the preventive powers of the cow-pox.”

He then proceeds to inform us, that the first difficulty which he met with in his investigation, was in finding that some persons “ *who seemed to have undergone the cow-pox*, nevertheless, on subsequent inoculation with small-pox, felt its influence just the same as if no disease had been communicated to them from the cow.” This led to further inquiry on the eruptive disease of the cow, in which the author had the satisfaction to discover two very important facts; the one, that the animal was liable to a variety of eruptions, all capable of giving sores to the hands of the milkers; and the other, that the only one of these diseases which was truly preservative against the small-pox, could not impart this specific property beyond a certain period of its progress. These two circumstances being once ascertained, the source of many errors was cut off; and the experiment of vaccine inoculation, as a security against small-pox, became safer, in proportion as the selection of virus for inoculation was more rigorous. The following pertinent remarks of the author, on the nature of each virus, we shall beg leave to insert: “ Here the close analogy between the virus of small-pox and of cow-pox becomes remarkably conspicuous; since the former, when taken from a recent pustule, and immediately used, gives the perfect small-pox to the person on whom it is inoculated; but when taken in a far advanced stage of the disease, or when (although taken early) previously to its insertion, it be exposed to such agents as, according to the established laws of nature, cause its decomposition, it can no longer



longer be relied on as effectual. This observation will fully explain the source of those errors which have been committed by many inoculators of the cow-pox. Conceiving the whole process to be so extremely simple, as not to admit of a mistake, they have been heedless about the state of the vaccine virus ; and finding it limpid, as part of it will be, even in an advanced stage of the pustule, when the greater portion has been converted into a scab, they have felt an improper confidence, and sometimes mistaken a spurious pustule, which the vaccine fluid in this state is capable of exciting, for that which possesses the perfect character."

The first experiment of vaccine inoculation made by Dr. Jenner, was on a lad of the name of Phipps, which proved completely successful, by enabling him to resist small-pox inoculation, both a few months afterwards, and again at the expiration of *five years*. This last period, we believe, is the longest that has yet elapsed between the reception of the vaccine disease by *intentional inoculation*, and the subsequent failure of variolous inoculation to produce its usual effects on the constitution.

Having so happily succeeded in the first trial, the author continues his narrative, which is so highly important, that we shall give it in his own words : "This case inspired me with confidence ; and as soon as I could again furnish myself with virus from the cow, I made an arrangement for a series of inoculations. A number of children were inoculated in succession, one from the other ; and after several months had elapsed, they were exposed to the infection of the small-pox ; some by inoculation, others by variolous effluvia, and some in both ways ; but they all resisted it. The result of these trials gradually led me into a wider field of experiment, which I went over not only with great attention, but with painful solicitude. This became universally known through a Treatise published in June 1798. The result of my further experience was also brought forward in subsequent publications in the two succeeding years, 1799 and 1800. The distrust and scepticism which naturally arose in the minds of medical men, on my first announcing so unexpected a discovery, has now nearly disappeared. Many hundreds of them, from actual experience, have given their attestations that the inoculated cow-pox proves a perfect security against the small-pox ; and I shall probably be within compass if I say, thousands are ready to follow their example ; for the scope that this inoculation has now taken is immense. A hundred thousand persons, upon the smallest computation, have been inoculated in these realms. The numbers



bers who have partaken of its benefits throughout Europe and other parts of the globe are incalculable ; and it now becomes too manifest to admit of controversy, that the annihilation of the small-pox, the most dreadful scourge of the human species, must be the final result of this practice."

Having given our readers so much of the substance of this little treatise, we may conclude with observing, that it contains no fact or observation which is not to be found in the former publications of the same author ; but to those who wish a concise and plain statement of the history of this discovery, unincumbered with theoretical reasoning or technical expressions, this little work will prove sufficient and satisfactory, and it cannot fail of fully confirming the author's merit as a public benefactor.

ART. VI. *Veterinary Pathology : or, a Treatise on the Cause and Progress of the Diseases of the Horse, together with the most approved Methods of Prevention and Cure. To which are added, short Observations on Bleeding, Firing, Rowelling, Fomentations, and Poultices ; and an Appendix, or Veterinary Dispensatory, containing the most approved Prescriptions for the different Diseases of the Horse. The whole intended as a Guide and Companion to the Gentleman, Veterinarian, and Farrier.* By WILLIAM RYDING, Veterinary Surgeon to the 18th Light Dragoons. Octavo. 185 pages. EGERTON, London. 1801. Price 5s.

TO avoid repetition, we refer the reader to our criticisms on N<sup>o</sup> I. Veterinary Transactions, and on Mr. Richard Lawrence's Treatise, in a preceding Number ; since much of what was there said is also applicable to the present work. We must, however, repeat our attachment to veterinary science and practice, and our regret that the noblest, most generous, and most useful of brute animals, when in a state of disease induced by his faithful services to man, should be confided to the unfeeling, random, and torturing hand of vulgar ignorance. We rejoice that, since the establishment of the Veterinary College, a considerable number of enlightened professional men have been dispersed in various parts of the country ; and that the army, in particular, has been pretty generally provided with such. In this respectable class we are happy to enumerate Mr. Ryding ; and we sincerely hope that those strictures on his



work, to which we are urged by an indispensable duty, may not operate to his discouragement, but rather as an incitement to his perseverance in that fair line of his duty, which, as it highly conduces to public benefit, ought to lead to honour and profit. We recommend to him unwearied diligence in experimental practice, in preference to a slavish reliance on authority, and a scrutinizing and impartial perusal of those books, which have been, with so much justice and propriety, styled by a late author, our veterinary classics. We are not unaware, that advice precisely the reverse of this has been given, nor is the public now insensible of the downfall of certain high-flown, but groundless pretensions.

Mr. Ryding's very ample title-page spares us the trouble of enumerating the contents of the book, in which every thing is treated in a brief and cursory way, according to the modern fashion of veterinary writing. His preface commences as follows, and we are sorry to say, unfortunately: "When the attention of the learned has been employed in investigating the anatomy and diseases of the foot, and making improvements in shoeing, little progress has been made in the other parts of the veterinary art, although it must appear obvious to every reader, and to the world at large, that a description of the cause and progress of the diseases to which that useful and valuable animal the horse is subject, at the same time pointing out such methods of practice as are sanctioned only by reason and confirmed by experience, must be a very important acquisition to the public."

"The difficulty of composing a work of this kind must appear to every one." This gentleman's work, we will readily agree, would have been *a very important acquisition to the public*, could it support, in any tolerable degree, the claim of originality; nay, although *facile est inventis addere*, we would have hailed with pleasure, and have received with gratitude, even the smallest useful addition to the ordinary bounds of science: but alas! Well, we will restrain our expectations until Mr. R.'s next essay, confining ourselves chiefly to the pointing out of such as appear to us to be the practical errors of the present. We desire not to dishearten him in his pursuit, (Pref. p. 10;) the treasures of knowledge are infinite and inexhaustible; but we look upon the question of Glanders, as one of the utmost importance.

Page 34. We find the following very just and useful observation: "Bleeding should not be continued from the appearance of



of the blood being sizy, for this appearance may take place from weakness." The mischiefs happening in this way, from the ignorance of common horse-doctors, are incalculable. Speaking of the cure of wounds, (p. 37,) by the first intention, the author strangely supposes it a new discovery. "By this method," (says he,) "wounds, which formerly were known not to be cured under five or six weeks, are now cured in as many days." To whom can he here allude, unless to common blacksmiths? P. 42, we have a case of a punctured wound in the knee-joint, attended with a considerable discharge of the synovia or joint-oil; this wound (neither an uncommon, nor a dangerous case in a healthy subject, under judicious treatment) was repeatedly cauterized, and an alarming inflammation induced, which would submit only to emollient poultices. We have ourselves witnessed excellent effects from the application of the actual cautery, but are by no means advocates for its indiscriminate use, and have little hesitation in pronouncing it improperly applied here. Our opinion is the same of its application in the case of a swelled neck, from bleeding, given in the Veterinary Transactions. It appears clearly to us, that the cautery, in that case, had the effect of retarding a cure, which might have been both early and easily obtained by the ordinary methods.

On *sprains*, as this author styles injuries done to the tendinous fibres and ligaments of the joints, he is very inaccurate and unsatisfactory; nor is it a happy conjecture, by whomsoever made, to derive splints and spavins from bad shoeing; at that rate, within our memory, we ought to have had none other than spavined horses: but Mr. R. has done well to repeat the excellent advice of never suffering the feet of horses to remain six weeks unexamined at grass. In this new treatise, the old heating forms of diuretic balls are prescribed, although the author adverts, p. 79, to the mischiefs of the kidneys being inflamed from the indiscreet use of strong diuretics. We have for many years observed the ill effects, and abuse of what the grooms call their "pissing balls," and always, in common cases, substitute solutions of the neutral salts.

In general, the treatment of colds is consonant with the usual methods; but we would not advise any young practitioner to be too busy with bringing the glands beneath the jaws, to supuration, or opening them with the lancet, as advised p. 64; far less can we countenance the following extremely injudicious practice: he recommends us to give a horse, having a cold,



and consequently discharge from the nostrils, his warm mashes in a nose-bag; the readiest method of causing him to swallow the largest possible quantity of mucus with his food, and of choking him, should he be taken with a fit of coughing. But we find many of these trifling inconveniences attendant upon our late improvements.

In the ætiology of fever a notable confusion is made: "a sudden change of temperature from heat to cold, causing spasm of the external vessels, whereby the perspirable matter becoming obstructed, is thrown back upon the circulation," (p. 65,) is the legitimate and most common cause of *catarrh*, with which fever is associated as secondary and symptomatic. The remedies prescribed are the old and established, with the exception of Barbadoes aloes, (apparently the author's panacea,) according to our constant experience, a rough and irritating article in any case, and particularly improper in fever. It is said, that the administration of this medicine in small quantities entirely divests it of any disagreeable effects; and it has been called a new practice, by those who probably knew not otherwise; but late experiments, which we have no room to detail, have furnished us, not only with solid objections against this drug, but to the method of giving aloes in small and insufficient quantities. The horse is eminently benefited by a brisk purge, provided it be not too strong.

We doubt that "violent exercise" is ever the cause of broken wind: on this subject the author has given the most rational and received ideas. Perhaps, on consideration, he will find, that there is not a strict analogy between the jaundice in the human subject, and the yellows in horses. His repetition of Barbadoes aloes and calomel, in this case, is, we believe, neither so appropriate, nor so safe, as the class of medicines formerly and successfully recommended. These patients are not seldom in a deplorable state of debility. In colic, Barbadoes aloes again, and turpentine: two, to four ounces of common turpentine, for a dose. In an inflammatory case these doses would no doubt have a decisive effect, as happened to an unfortunate patient within our knowledge a few years since, which received from the hands of a certain Veterinarian four or six ounces of rectified spirit. This author, it is true, gives a caution in the case of great inflammation; but we apprehend, the remedies alluded to are very rarely safe or eligible, and extremely dangerous in common hands. In diarrhœa he has omitted the best of all medicines, and the most to be de-

pended



pended on, rhubarb, the cordial and subastringent effects of which are so directly applicable to the disease. They are wide of the mark, who suppose that rhubarb was formerly prescribed, with the expectation of its purging a horse like aloes. In farcy the author delivers nothing new, as he erroneously pretends. Bracken, reasoning on the cause of this disease, near seventy years ago, was accurate and practical. "The cause lies in the blood and humours; for as the first is, in this distemper, of too slow motion, especially in the capillary arteries, the glands and secretory ducts will be stuffed with a kind of slimy matter, and thereby rendered unfit to perform their proper office of separating each particular humour, as is required by the animal machine." Much has been said of late, of the absorption of the virus of glanders *always* producing farcy; but the effect is by no means invariable: it has been known, for more than a century, that farcy is commonly associated with the alternate stages of glanders. The matter of various diseases assumes the appearance of farcy-buds.

We are truly at a loss in what terms to couch our remarks on Mr. Ryding's strange introduction of the origin of bots in the stomach of horses: what can he possibly mean by "recent observation," and *M. Vallisnieri's late discovery*? There is no doubt that he read this wonderful discovery, at second hand, in Osmer's book, the third edition of which was published thirty-five years ago. And to the best of our recollection, the Memoir of Reaumur, which Osmer copied, had been then published twenty years. Reaumur himself copied Gaspari, who had yet the wonderful intelligence at second hand, from Vallisnieri. Has Mr. R. never read the ridicule which has been justly thrown on this fly-figging business? Has he never heard of multitudes of bots being voided by mill-horses in London, which for years had never quitted their stables? Does he mean, in conjunction with the aforesaid sage doctors, to account for the existence of worms in the most impervious recesses of the animal body, in order to avoid the fatal rock of equivocal generation? The impossibility of getting into a quart bottle has long been held the opprobrium of conjuration: it is perhaps somewhat easier for a gad-fly to penetrate the anus of a horse, however powerful its sphincter may be, and however irritable the animal. Mr. R. might have seen, that *roarers* have been noticed by other writers. His cause of the disease (extravasated lymph) is indeed very inadequate to so permanent an effect. In this distemper, the leading symptom (the state of the skin) is totally overlooked.

In



In the few thin pages, which the author has dignified with the title of a Veterinary Dispensatory, we find no one single novel idea, besides some small deviations, in so beaten a track. Casting our eyes over this Dispensatory, at the end of the book, our reminiscent faculties were suddenly retracted to the beginning, where (p. 1) Mr. R. talks of the difficulty of composing a work of this kind; and farther on (p. 6) says, “and although, in different hands, the subject has been dressed in different language, yet, on examining their contents, I find the authors to be merely plagiarists of each other.”

The alterative powders, N<sup>o</sup> 8, consisting of large quantities of common antimony and nitre, without any corrective, would have an extremely ill effect on the appetite of delicate horses, and the antimony often passes unchanged through the intestines of the robust. The mixture for strains, N<sup>o</sup> 11, is an inferior composition.

ART. VII. *Philosophical Transactions of the Royal Society of London, for the Year 1801. Part II.* Quarto. 208 pages. ELMSLEY, London. Price 17s. 6d.

THIS last published Part of the *Philosophical Transactions* is particularly rich in anatomical and physiological disquisitions, and contains other matter of a nature interesting and useful to the profession of medicine; we shall, therefore, be copious in our extracts from such parts of the work, and merely notice the heads of others which have a dissimilar scope.

The twelfth article of the volume, and first of the Second Part, is *A historical and anatomical Description of a doubtful amphibious Animal of Germany, called by Laurenti Proteus Anguinus.* By Charles Schreiber, M.D. of Vienna. Communicated by the Right Hon. Sir Joseph Banks, Bart. K. B. P. R. S.

Very imperfect and erroneous accounts had been given of an amphibious animal inhabiting the lake *Sitticher See*, in Car-niola, and called by Laurenti, its first describer, *Proteus anguinus*. This naturalist (whose description of the animal in his *Synopsis Reptilium* is very short) considered it a perfect species; but neither he, nor other authors who have mentioned it, having been sufficiently acquainted with its internal structure, their authorities cannot be looked upon as decisive.

The



The animal has, at length, been described by Dr. Schreiber, and his accurate anatomical account will assist zoologists in determining more confidently, whether this singular creature be a perfect animal, or the *larva* of some unknown one. To those who may be inclined to adopt the former opinion, it will be satisfactory to learn from Dr. S. that, notwithstanding most diligent search during many years, he has never been able to detect any animal of which it can be the *larva*; at least, not in the lake above mentioned, and in no other has the *Proteus anguinus* ever been found. It has always appeared to have been thrown out by the rising of the water, and yet very few specimens have hitherto been discovered. As all attempts to send it to Vienna alive have been unsuccessful, Dr. S. has had no opportunities of examining it in the living state; but Baron Zois, who was fortunate enough to keep some of the animals alive for several days, furnished him with the following account, viz.

“ In his first letter,” he says, “ he had some hopes of sending me the animal alive, as it seemed to take some nourishment, having thrown up from its stomach, the first days of his keeping it in the water of the lake, (in which it was brought to him,) a great many small shells of the genus *Helix*; but he soon found his hopes disappointed, as he saw that it would not take either these shells or any other food, and became from day to day more languid and weak. The seventh day it lay upon its back, and the skin became covered with a flaky glutinous slime, as is commonly observed on amphibious animals when dying. It seemed, when alive, very torpid, and moved but seldom; it swam however sometimes, with the help of its broad tail, very swiftly, in every direction. Twice he observed it touch one of those shells with the extremity of its beak, and fling it twelve inches distance, on the bottom of the vessel wherein it was kept. The first days it crept slowly on the bottom, and seemed to look for food; it often took a shell into its mouth, but gave it out again, swallowing none. Several times it rose to the surface, stretched its head out of the water, and took in air, but returned directly to the bottom. He never could find any traces of eyes, even with a magnifying glass. He assents, however, to Dr. Scopoli’s opinion, that it is an animal in a perfect state, and *sui generis*.

“ In another letter he says, that he received the two specimens sent therewith alive; but that they died in a few hours, being kept in common water.

“ In



“ In a third letter he says, in answer to some inquiries I made, that all the specimens he knows of were found in the months of August and September ; but that some have been seen by fishermen, so early as the month of July, when the season happened to be very rainy, and the lake overflowed.

“ He says the animal uses its feet in creeping on the bottom, and in ascending along the sides, of the vessel, if of wood ; that it creeps very slowly, or, to use his words, very deliberately. In this particular it differs from every other creeping animal, insomuch, that he is tempted to call this motion (which he says is amusing to behold) characteristic of the animal.

“ It often produces a hissing kind of noise, pretty loud ; more so than one should expect from so small an animal, and resembling that produced by drawing the piston of a syringe. He once observed, that, while doing so, it hung on the side of the vessel, with the fore part of the body out of the water. He suspects that two very small darkish spots, in a parallel direction on the forehead, might be the eyes : he discovered them by looking with a magnifier at the head, when out of the water ; the animal hanging quietly on the sides, where it continued motionless for a considerable time, without appearing shy or timid.

“ It is of a light red colour, when alive ; and the branchial appendages, on the sides of the head, are of a deep blood colour. In spirit, it soon loses all tinge of redness. Inactivity, and the above-described singular creeping motion, seem to be peculiar to this animal ; and, although it came several times in the course of a day to the surface of the water, and even rose above it, it passed the greatest part of its time at the bottom. In ascending in the water, it seemed only to make use of the tail ; ascending as slowly and smoothly as it creeps. Sometimes Baron Zois observed it to use a motion like that of fishes, throwing itself about in the water with considerable force and swiftness.”

The five specimens seen by Dr. S. were of very different sizes ; the largest was about thirteen inches long, and one inch in diameter ; three others were between nine and ten inches long ; and the smallest (apparently the youngest and most imperfect) was about eight inches long, and scarcely one third part of an inch in diameter.

The following are the most remarkable circumstances in the structure of the animal, when examined anatomically : it has no nostrils, external ears, nor *appearance* of eyes. This last  
fact



fact occasioned the mistake of Laurenti and all the other naturalists, who affirmed that there were actually no eyes. There is no appearance of them after death, particularly when the animal has been preserved in spirits; and indeed they are scarcely to be discovered when it is alive; but, if the skin be removed from the front of the head, they may be seen at the base of the rostrum, beneath the foremost of the protuberances on the head. On the sides of the occiput are apertures like those of fishes, and over them ramifications of vessels, or bronchial appendages, similar to those of tadpoles, or larvæ of other *amphibia*; which similitude has occasioned the many doubts and dissensions among naturalists concerning this animal, as well as the still ambiguous *siren lacertina*. Each of the bronchial apertures is divided by three thin, simple membranes (not vascular, as in fishes,) attached to three oblique, cartilaginous bones, but leaving only two holes between them; in which particulars, and in the red colour of the appendages during life, this animal differs materially from fishes, and from tadpoles, or other *larvæ*. The body itself is round, equally thick throughout, and, from the insertion of the fore feet to that of the hind feet, about six inches and a half long. The fore feet are about an inch long, consisting of the thigh and leg, and terminating in three toes without nails, whereof the middle one is the longest. The hind feet are nearly one sixth of an inch shorter than the fore feet, and terminate in only two ill-shaped toes. The tail is three inches and a half long, compressed on the sides, very fleshy and strong in the middle, and almost pointed at the end, where it is surrounded by a thin membrane, which gives it considerable breadth. Upon opening the body longitudinally, the liver was found to occupy almost the whole cavity, covering nearly all its viscera. Below the heart, in the thorax, was found a bag, about an inch long, of a very simple and thin membrane, and this Dr. S. discovered to be the organ of respiration; but this pneumatic bag exhibited no cellular structure, as in other amphibious animals. In each jaw there is a row of minute, sharp teeth. No ribs or sternum were detected, but there were bones in the tail.

The *siren lacertina* and the *Proteus anguinus* are evidently nearly allied to each other; but the former, in its shape, size, structure of the head, and number of the feet (of which it has only two,) presents characters very distinct from the latter.

13. *Observations tending to investigate the Nature of the Sun, in order to find the Causes or Symptoms of its variable*



*Emission of Light and Heat; with Remarks on the Use that may possibly be drawn from solar Observations.* By William Herschel, L.L.D. F.R.S.

This is a long and minute detail of astronomical observations, from which the ingenious author deduces some curious and important inferences.

14. *Observations on the Structure and Mode of Growth of the grinding Teeth of the wild Boar, and Animal incognitum.* By Everard Home, Esq. F.R.S.

Mr. Home had before made known some peculiarities in the mode of growth of the grinding teeth of the *sus Ethiopicus*, which naturally led to the examination of these teeth in the other species of *sus*: that no such peculiarities should be found in any of them, appeared very extraordinary; but, upon reflecting that they only belonged to the second set of teeth, and that the first or temporary teeth of the *sus Ethiopicus* were exactly similar to those of the common hog, the idea suggested itself, that a similar change might take place in the teeth of the other species, at a more advanced period of life; and, that it had not been detected in the heads that had been examined, because the animals were too young.

From an examination of some specimens with which the author was provided by Sir Joseph Banks and Mr. Best, he has at length been enabled to make out very satisfactorily, the mode of dentition of the wild boar during the first seven years; and to ascertain, that there is a succession of grinding teeth beyond that period.

In this species of *sus*, the temporary grinders consist of sixteen; four on each side, both of the upper and under jaw.

These sixteen teeth are shed in the usual manner, and their places supplied by larger teeth rising up from the substance of the jaw, immediately under the old ones.

Before these first teeth are shed, one of the more permanent grinders is formed, in the posterior part of each side of both the upper and under jaw; this tooth, although it is in its place with the first set, is to be considered as belonging to the second set.

In explaining the subsequent changes which take place, Mr. Home confines himself to the lower jaw; as the figures which are annexed are taken from the teeth in that jaw.

Of the five teeth on each side of the lower jaw, one is separated from the rest, and is close to the tusk, which admits of a space, for the curve of the upper tusk to rest upon; so that there



there are, properly speaking, only four grinders, forming a regular row.

As the jaw increases in length, a small cell is formed in its substance, behind the last grinder, in which the rudiments of a new tooth appear: these increase, along with the cavity in which they are contained; and the new tooth is in every respect larger than the preceding one. By the time it is completely formed, and ready to cut the gum, the jaw has extended itself, so that there is room for it to come into its place, as the posterior grinder.

While this tooth is concealed in the jaw, another cell is formed immediately beyond it; and there is a small round hole of communication between the two cells, similar to what is met with in the elephant; but there are no remains of such a communication, between the anterior cell and the socket of the full-grown tooth immediately before it.

The last-mentioned cell is at first very small; but gradually increases to a prodigious size; and the tooth formed in it is nearly double the size of the preceding large grinder. Its masticating surface has a row of four projections on each side, and the tooth has eight fangs; so that it very much resembles two large grinding teeth incorporated into one: the posterior fangs are not completely formed at seven years of age.

This large tooth, although it is formed in the posterior part of the jaw, is brought sufficiently forward, by the growth of the jaw bone, to cut the gum, and range in the line with the other teeth, making the connected row of grinders six in number. From its very great size, it not only fills the jaw completely, but all the bodies of the other five teeth are pushed by it out of their perpendicular direction, leaning a little forwards.

As soon as the sixth grinder has cut the gum, a new cell begins to appear immediately beyond it, to receive the rudiments of another tooth.

This last cell, at seven years of age, is very small; and the specimens in Mr. Home's possession do not enable him to prosecute the inquiry; but there is every reason to believe the tooth formed in it, equals or exceeds the large one that has been described.

"Although the grinder of the boar," says Mr. Home, "differs in appearance, as in extent of surface, from those of all the recent animals that have been mentioned, yet, upon comparing it with the large fossil teeth found on the banks of the river Ohio in North America, belonging to the animal incognitum, they are so much alike, both in the external



appearance and internal structure, that it is evident they are teeth of the same kind, only of very different sizes.

“ This resemblance led me to examine the mode of dentition of this unknown animal, as far as could be done from the specimens preserved in this country, to see if any resemblance could be traced between it and that of the wild boar.

“ From the different specimens of these fossil teeth deposited in the British Museum, the collection of the late Dr. William Hunter, and the Hunterian Museum, together with one in my own possession, presented to me by Sir Joseph Banks, the following facts have been ascertained.

“ The first grinders are small, when compared with those which are afterwards formed, being scarcely more than half their size: they have three transverse projecting ridges, completely encrusted with enamel, as well as every other part of the masticating surface.

“ Two of these grinders, and probably more, are present on each side of the jaw at the same time. As the animal increases in size, and the jaw extends itself, a larger kind of grinder is formed in the posterior part of the jaw, exactly similar to what happens in the elephant: and, as this large tooth, which has five projecting transverse ridges on the masticating surface, becomes completely formed, it comes forward, and occupies the principal seat in the jaw, and the others drop out.

“ When the smaller grinders are examined, the greater number of them have their fangs all bent in one direction, in consequence of the bodies of the teeth having been pushed forward, by the large posterior tooth coming into their place, as was observed in the temporary grinders of the young *sus Ethiopius*.

“ This process is well illustrated by two specimens, which show the teeth in the two stages of growth, and which are represented in the annexed figures.

“ The first is a lower jaw preserved in the Hunterian Museum, in which the two small grinders are in their sockets; and the cavity for the formation of the large grinder has, upon its sides, the impression of the different parts of the body of the tooth.

“ The second is a lower jaw in the British Museum, in which the large grinder is completely formed, and occupies the principal part of the jaw, at the anterior part of which are the remains of the sockets, from which the smaller grinders had fallen out.

“ This



“ This mode of dentition is precisely similar to that of the elephant; and, in the structure of the tooth, it resembles that of the boar: we have therefore complete evidence of a tooth of this last structure acquiring the size of that of the elephant, and succeeding those which preceded it in the same manner.

“ The animal incognitum, with respect to its teeth and the mode of their succession, being an intermediate step between the elephant and wild boar, both of which have tusks, gives a degree of probability to the opinion which has been very generally adopted, of this animal also having tusks.

“ Of this, however, there is at present no confirmation; nor is there sufficient ground for denying their existence; the part of the upper jaw in which they ought to be situated not having been preserved entire, in any of the specimens that have come under my observation.

“ That tusks have been found, resembling those of the elephant, in the same places in which the fossil teeth were met with, proves nothing; since fossil elephants' grinders have been found in the same situation.

“ The skull of the fossil skeleton found in South America, a description of which is given by Mr. Cuvier, Secretary to the National Institute at Paris, in size resembles that of the animal incognitum; but, when it is particularly examined, it will be found that the animal is of a very different genus. The shape of the lower jaw is totally unlike; and there are four grinding teeth on each side of the jaw, with flat crowns, on which are transverse grooves; which shews that the number and appearance of the teeth are very different from those of the animal incognitum of North America. This South American animal incognitum, therefore, having no tusks, cannot be brought in evidence either for or against their existence in the other.

“ The mode of dentition by a succession of large grinders formed in the posterior part of the jaw, is not the only one adopted by nature for the supply of those animals who live to a great age, and require a renewal of their teeth, with an increase of size proportioned to the enlarged growth of the animal.

“ The mode of dentition in the elephant, animal incognitum, and boar, appears to be confined to those animals of great longevity, whose food has so much resistance as to require the teeth being of a size too large to admit of the new tooth and the old being contained in the same portion of the jaw, at the same time.

“ That



“ That the elephant lives to a great age, is sufficiently ascertained ; and the size of the bones of the animal incognitum, is almost sufficient evidence of its being a long-lived animal.

“ The wild boar of Germany, from living in a savage state, cannot have its natural life appreciated with any accuracy ; but, if we may credit the accounts recorded, of the size to which it grows, it may be presumed that many years are necessary for that purpose.”

(*To be continued.*)

ART. VIII. *Hygëia, a Series of Essays on Health ; on a Plan entirely popular.* By THOMAS BEDDOES, M. D. N° III. 84 pages. February 1802. PHILLIPS, London. Price 2s.

WE have already noticed the two first numbers of this work, and it is our intention to follow the ingenious author through his useful and arduous career as closely as possible, being convinced that the best way to lessen the sum of human diseases, is to inculcate that kind of knowledge respecting the action of different objects and circumstances on the body, which, when once received, will present itself in the form of axioms, and teach individuals how to regulate the action of these objects.

Almost the whole of the present number is occupied with the consideration of a subject, which, it must be allowed, is of the utmost importance, namely, *Schools for Girls*. The author's situation offers him sufficient opportunities of inquiry on these subjects ; for among the invalids who resort to Bristol, females belonging to families in some degree of affluence form the largest proportion : of these an immense majority have been educated at boarding-schools. They are accompanied by relations, and visited by friends, who have been trained in the same manner. It is easy, therefore, by turning the conversation to these seminaries, to become acquainted with the lot of an infinite number of our young women ; and the comparison of many accounts will obviate the danger of being misled by the inaccuracies of individuals.

“ But the essential points,” the author observes, “ tax the memory and the judgment so little ; and they afford such very small temptation to exaggerate ; that full reliance may, I suppose, be placed upon the answers. As a basis for the observations I have to make, I shall produce, in sufficient quantity,  
specimens



specimens of the information which I have collected. I have held in view particulars relative to food, fuel, exercise, and clothing. It was easy to put the parties upon relating the school occurrences. When I had thus ascertained the uniformity which actually exists, I declared my object, and procured in writing, or took down myself from the mouth of the person I was questioning, a relation of the circumstances. It was understood that I had determined sacredly to abstain from local or personal allusions; and I found every one, to whom I addressed myself, ready to give me all the satisfaction in her power."

The result of a great number of inquiries concerning the habits and customs of different schools the author sums up as follows, almost all the accounts agreeing in the following circumstances: "Rose at six in summer, seven in winter; all who learned music, practised in winter for two hours before breakfast; in summer all, except the puny and sick, walked for an hour; six hours interval between breakfast and dinner, but each, in one school at least, had a large piece of bread at twelve. Out of school hours, in fine weather, an hour's walk, two and two, before dinner, and another before supper; in foul weather, used the dumb bells, or played about in the dancing room. The rest of the time out of school hours, practised the lessons appointed by the several teachers. Feet generally cold in winter; there were constant good fires in the school room, but the streams of air from the school room doors, were chilling. All wore stiff stays—'it was the fashion,—' so says one reporter, who was excellently situated for knowing the fact in numerous schools,—'the custom universally; the friends, in general, expected or approved it.' Chilblains common, particularly on the fingers."

One of the most remarkable circumstances in this general account is the prevalence of chilblains: every one, without exception, whom the author has had an opportunity of observing, complained of being uncomfortably cold or quite benumbed during school hours in winter. This symptom is, however, only a prelude to the change of health, which shortly after took place. In the author's endeavours to trace back as far as possible the constitutional history of invalids, he observes, that in no instance has he been more able to do this in a satisfactory manner, than in young women about the age of puberty. In the case of these patients, every thing is favourable to accuracy of information. The life they lead is exceedingly uniform. What has passed, where they have not been



under the immediate inspection of their parents, they can themselves supply. The period at which their health has begun to decline, has been frequently well marked. It has been often within a year, or a year and a half, after their removal to school.

The result of the author's inquiries, with respect to chilblains, is, that this complaint of the extremities is much less prevalent in private families, except among particularly spirited adventurers in the snow; and that, at schools, it seizes on new-comers, with as much certainty as the ague upon strangers on their arrival in the fens, or as the yellow fever upon Europeans, when they set foot in the West Indies. It is an artificial malady, in general produced by the application of sudden heat to extreme parts, benumbed with cold. The previous coldness is an essential circumstance. In different habits, different degrees of previous cold and subsequent heat, will produce chilblains. But where they so frequently occur, the first indispensable cause must operate severely. The general feelings corroborate the inference from the effect on the hands and feet. The fact has been well remembered, whenever he has made the inquiry. In winter, the nine, ten, or twelve tedious hours of school and of preparation for school, particularly the former, were, in a greater or less degree, an uncomfortable, chilly, shivering season; leaving upon the memory, a strong, painful impression, and a worse upon the system.

“It is difficult,” the author observes, “to imagine, that either this gross mismanagement, or its consequences, should not have totally escaped governesses and parents. But however that may be, they may be sure that there is not a single species of disease, indisposition, or incapability, prevalent among women in this country, which it is not fully sufficient to induce. Not a constitution but it will help to undermine. I have heard it related by many mothers, that after a residence of some months at school, a periodical function, peculiar to the female frame, has ceased altogether, or run into excess. Either irregularity will follow the action of continued cold. And I will venture to propose the prevalence of chilblains, as a simple and indubitable criterion of improper treatment. In children the most puny, and the most disposed to chilblains, they may be prevented by a very little care. They are, it is true, suffered to take place, to an equal degree, in private families; sometimes because attention is totally absorbed by vain acquirements; all acquirements are vain, if health be not secured; and sometimes because the very desirable quality  
of



of hardiness is sought by a preposterous method. But a large proportion of young women, who have suffered long from chilblains, whether at home or abroad, will always be found to fall into fatal disorders about the æra of maturity, or to become miserable valetudinarians for the subsequent part of life."

In speaking of books of regimen the author observes, "we find fruits, meats, gardenstuff, liquids, sauces and seasonings, regularly mustered, from apples down to yams. Much is sagely said of *roast* and *boiled*; and the difference between the effects of *beef* and *pork* is laid down, point by point, as though the authors had been present, when these important articles of sustenance were compounded out of their elements. All this is very well, *if* it have the least foundation in accurate research; a condition, respecting which, I admonish the reader to demand full satisfaction, before he adopts a single article of the long diætetical creed set before him.

"The full catalogue has, however, a fine, orderly, martial air. But the whole is mere shew. The service it has rendered, is next to nothing. To many methodical, nicely reasoned, political treatises, it has been with perfect justness objected, that they are, at best, useless, because they treat of government *in the abstract*. So it is with treatises concerning things wholesome and unwholesome. To frame regulations is, in either case, a vain labour, without defining the circumstances, in which they are to be observed."

The author condemns the use of tea in the most unequivocal manner, and gives a number of experiments which seem to prove that green tea, in particular, possesses a most formidable quality. The results of all his experiments, in which he injected different substances into holes made through the skin and muscles of frogs, shew, that tea proved as quickly poisonous as laurel-water, opium, or digitalis; and in some of them it proved more so.

The condition of the system, in young people, he observes, "appears plainly to be such, as to cause them to be more strongly affected by tea, than persons of more advanced years. It is so with opium, with fermented liquors, with that whole tribe of substances which, whether they find admission into the cellar, or into the apothecary's shop, or are thought too dangerous to be received into either, frequently exhilarate first, and depress afterwards. Though in some circumstances, without any previous exaltation, they bring on lowness, tremors, head-ach, and a state of sensation in which it seems to him, who



has made free with them, as if he were out of his element. They should all, without distinction, be banished from the regimen of the young and healthy. How far they may suit the sickly, is a question foreign to these essays, though it is certain that, by the habitual use of tea, and of the products of the vinous fermentation, we unwisely deprive ourselves of remedies, as precious as foxglove and opium.

“ I am far, however, from imputing the puny habit, and the habitual sickliness of our opulent classes, solely to tea. I am also far from wishing this liquid to be universally relinquished. I only regard it as one among many concurring powers, that operate perniciously upon the constitution of children. Were they to follow a course, materially different from the usual one, in some other respects, they might perhaps drink tea with impunity, unless they should be allowed, as is the case at some boarding-schools, to make it excessively strong. To such immoderate strength, it is probable that elderly people often owe the obstinate continuance of various disorders.”

In speaking of exercise the author properly observes, that one part of the animal system is destined to the purpose of feeling; another to the purpose of moving. But the due exercise of these functions is restricted within certain limits. Too much or too little use renders the organs incapable of properly performing their office. And the mischief seldom stops at incapacity, but runs on to local or general disorder, and often terminates in the destruction of the entire system. But there seems a remarkable diversity in the consequences, that result from suffering the respective parts of the system to remain in a dormant state. If a person labour moderately, and observe a temperate regimen, without ever experiencing a greater quantity of sensation than inevitably attends the animal appetites, and their gratification, he may attain the utmost term of human life without suffering; he may be as contemptible a member of society as can exist, but he will, in all probability, escape the never-ceasing and multifarious miseries of the valetudinary state; he will find himself free alike from the plagues that wait upon ladies' indolence and gentlemen's debauchery.

The following quotation shews, in so striking a light, the necessity of exercise, that we cannot withhold it from our readers:

“ Human creatures, made to think assiduously and to feel acutely, but debarred from the use of their muscles, will have



but a questionable advantage over those that are forced to slave in unwholesome confinement, without any adequate allowance of food or sleep. The one and the other may continue to breathe for years; but what consolation is that? when the charm of existence is gone; when the spell, cast by the Creator over his works, is broken before its time, by the temerity of unthinking or impious mortals. The collection of human creatures, prevented by ill-advised, unfeeling, barbarous art, from attaining a condition much above the brutes, which Britain could furnish, is beyond calculation great. Were our boarding-schools, and our cotton-mills, and other manufactories where children are employed nearly as in the cotton-mill, discharged into Salisbury-plain (where our Saxon ancestors may often have assembled to hold their wittenagemot,) could the inhabitants of the respective mansions be readily distinguished? *Yes, doubtless, at the distance of gunshot. To suppose otherwise were an affront. How could they fail to be distinguishable?* I understand. By their garb and their air. But were they to exchange dresses, would the superiority of the young ladies in solid, personal advantages at first glance, strike a stranger through the disguise? Who durst swear that it would? I wish it were in our power to summon into the field a third troop, that had been accustomed to enjoy their fill of sun, and air, and food, and warmth, and exercise, without being cramped, or distorted internally or externally, by unnatural garments, and without being harassed by odious tasks. The contrast, I feel well assured, would be instantly decisive. Deference to custom and aversion to thought, formidable as they are in their league against reason, would not be able to stand their ground against this show. However inferior in unimportant attributes, the recruits from the houses of labour might seem to those from the houses of instruction, both would stand at nearly an equal distance, on the scale of health and happiness, below their equals of the third division."

It has often been held out, among the advantages of a public education, that children have frequent opportunities of forming intimacies and connexions which will be of the utmost service to them in future life, but of which they are deprived by a private education. We must confess, that we have often been inclined to doubt the validity of this assertion; the opinions of our author, on this subject, coincide entirely with our own. These opinions he expresses in that energetic and convincing manner which is almost peculiar to himself.



“ I have never,” he observes, “ felt the propriety of huddling children together, in order that those that suit may feel each other out in the throng. It is a way, in which I should imagine bad connexions much more likely to be formed than good ones. When the chemist desires to effect an union between two principles, does he set about, in the dark, to shovel all manner of materials into the same vessel, for the chance of a combination to his purpose? Or, does he mix, according to art, such substances as contain the elements that have a mutual affinity? To secure the formation of advantageous intimacies, I should rather trust to the superintending, but unseen influence of the parent, than to the untutored feelings of the child. No advocate for a public education, will surely offer the heads of private families such an insult, as to say, that they have not management enough to place young people within the sphere of each other’s attraction. And shall we only concern ourselves about what is united by the process recommended? Shall we not also look to what is separated? If living together establishes friendship between aliens, living apart more often occasions alienation among friends.”

Where, however, it is impracticable for parents to bring up their own daughters, we would recommend a careful attention to the following particulars, which may prevent injury to the constitution. The same directions will apply, in a great measure, to a home-education.

“ The limited number of some few schools should become general. The number of pupils in the same house should never, perhaps, exceed a dozen. But that properly qualified governesses may be tempted to undertake the charge, affluent parents should consider that a good education is the best part of a child’s portion; nor should they be afraid of lessening the patrimony, where it is at all considerable, in behalf of so important an object.

“ The young people should rise early in summer; and in winter as soon as it is light. But, in both seasons, some agreeable occupation should be the inducement to call them out of bed, rather than compliance with a strict rule. As soon as they rise, they should be offered some bread, or bread and butter, or a small draught of milk. That child is unwell from a permanent cause, or from transient indigestion, who refuses such offers soon after rising. An hour is too long for a child, not robust, to remain in the morning without food.

“ The



“ The interval of an hour should be devoted to some play or exercise. A breakfast of milk should succeed. Prepared milk, or broth, or beef tea, should be the substitute of plain milk, where that disagrees. The liquids used at breakfast should not be taken above blood heat in any case; and where there is no considerable or perspiring heat, they should, in warm weather, be taken of the temperature of the atmosphere. The previous exertion will prevent any one from sitting down chilly to her meal.

“ Genuine milk should be secured at any expense. It would be an essential circumstance in favour of that school, where cows enough for the family could be kept, or where it could be satisfactorily shewn that an unadulterated supply was provided.

“ A moderate walk of twenty minutes should succeed. Much exertion in feeble subjects might disturb digestion. But even much exertion with agreeable feelings, will have a less bad effect in this way, than reluctant occupation in a posture, by which pressure is made on the stomach. We see boys and peasants, using violent exercise immediately after meals without inconvenience.

“ Two hours of sedentary occupation might follow; but not more than two hours; in a temperature, as little as may be, below sixty degrees of the thermometer commonly used in this country. Of what they read, young people should give the substance in their own words, sometimes in writing and sometimes in speaking. It is better to give nothing to be learned (except, perhaps, the multiplication table) in order to be repeated *verbatim*. Getting passages by heart should be trusted to a sense of their beauty. Without this sense, the passages will soon be forgotten; and children are fretted and injured by frequent *tasks* of this nature. The suffering of the body through the medium of the mind, is a thing every day exemplified in the most sudden manner. But the *gradual* operation of this cause is not less manifest to close observers. And it assists in accounting for a phenomenon, which the female sex, I believe, more frequently exhibits at an early age. The phenomenon I mean is the inversion of the character or of the temperament. The members of the medical profession, who act as *confessors* to the unfortunate among mankind, perpetually find those very women most labouring under depression of spirits, whose infancy and childhood were distinguished by an extraordinary degree of sprightliness. This change, I believe, very seldom begins at home; not unfrequently at school, and sometimes not till after marriage. It arises from repeated vexations;



vexations; rarely from any single misfortune. A human being, endued with an extraordinary degree of sensibility, will, of course, be more than commonly elated amid pleasant scenes. And where the feelings are so expanded to impressions of either species, how can they but sometimes receive a blight from the unkindly discipline and diet of many boarding-schools?

“ The most cheerful and healthy sort of instruction is that which I have already recommended, as to be acquired directly through the senses. The different departments of *natural philosophy*, in the most extensive sense of that term, will afford an endless course of agreeable and wholesome instruction. But to be good for body and mind, the lessons must be short. One or two experiments will generally be enough. The general inutility of lectures of all sorts, and the injury they occasion to children in particular, depends upon their excessive length. The multiplication of elementary treatises will prevent any one, who is in earnest, from ever being at a loss for matter. Every place will afford persons, willing to instruct a teacher of girls in certain simple manipulations. If the practice of some mechanical arts could be introduced into female schools, the advantage would be great indeed to the constitution. It would, it should seem, be practicable to introduce some of these arts; such, for instance, as the use of the lathe. Both arms should, as much as possible, be equally exercised, not merely for the sake of harmony and power in the movements, but to obviate distortion.

“ In rather less than three hours after breakfast, food, in small quantity, should be distributed. Three hours is the very utmost, that a child, particularly if at all weakly, (and the great majority of the offspring of parents in genteel life answer to this description,) should go without sustenance. Every quarter of an hour, after hunger begins to press, adds its share to the mass of mischief, which a variety of causes has most commonly conspired to accumulate. An hour for work and study may intervene before dinner. To dinner, and to some entertaining reading or communication on the part of the instructress, during a simple dessert, an hour and half may with propriety be devoted. In winter, a brisk walk or cheerful play should succeed: and then school-exercises for an hour and half. But during all the sitting time, the kind of employment should be twice or thrice changed. Some grateful preparation of milk, as custards, or blanc-manger, or orgeat, or a piece of fruit-pie, should be served in place of tea; I particularize  
fruit-



fruit-pie, because I often see over-anxious educators deprive children of innocent and agreeable articles *for their stomach's sake*. Individual peculiarities will soon shew themselves. Otherwise, few plain eatables disagree with children, especially active children. To prevent needless privation is of some importance. It is of more to prevent attention from being wasted on frivolous precautions. I have heard many mothers cry, 'My dear, don't eat *that*; it will make you *sick*!' It would not signify much though it should. And I wish I could hear a few say with equal emotion, 'Don't do that, it will make *you sickly*;' or rather manage with constant reference to this idea. The refreshment in place of tea should, in fine weather, be followed by a botanical excursion; at other seasons, by an active, in-doors game, in which, as in every thing else, the governess, or an assistant, should join. Then supper, and bed. But at every meal, a properly qualified person must be able to bring forward something, which will answer the purpose of a pleasant and healthful education. A piece of bread and cheese may be made the introduction to every art and science.

"At all times, exposure to damp must be guarded against. In cold weather, the pupils should be felt and examined, that proper precautions against nightly chills may be taken, when required. In very cold weather, a fire should be made in the bed-room.

"Under twelve years of age, then, it should be an invariable rule, that the hours of application should never exceed those of amusement and exercise. Swift observes, that in the arithmetic of the customs, two and two often make one instead of four. The same holds in many cases of instruction. The children that have made, within my knowledge, the quickest progress, felt the deepest interest in knowledge, and retained their acquisitions most firmly, were never detained at their books above an hour at a time; and seldom above half the time. So perpetually true is it, that the other most valuable objects are best secured by the very measures which regard to health enjoins. *Proficiency* in music and drawing should be given up to a maturer age; and indeed till the system has become hardy, and the pupil is confirmed in active habits. Even when a love of bodily exertion, a facility in seizing ideas, and a power to resist the inclemency of the weather, have been acquired, some plan should be devised, by which they may be retained. One day in the week, for example, every pupil should abandon her bench, her book and needle, for a long excursion.



cursion. A school of twelve would divide well into two parties, which might sally forth in turn. For this, and for very many other reasons, these seminaries ought to be conducted by a married couple, and not by women only."

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ART. IX. *A Description of the Muscles of the human Body as they appear on Dissection; with the Synonyma of Cowper, Winslow, Douglas, Albinus, and Innes, and the new Nomenclature of Dumas, Professor of Anatomy at Montpellier; with Prints and Maps, shewing the Insertions of Muscles.* By JOSEPH CONSTANTINE CARPUE, Member of the Royal College of Surgeons in London, Surgeon to his Majesty's Forces, and Teacher of Anatomy. Quarto. 55 pages. LONGMAN and REES, London.

THIS work of Mr. Carpue's on the muscles of the human body is well contrived to assist students in the dissecting-room, as the muscles are described according to the order in which they arise on dissection: seven plates are given, demonstrative of their attachment to the bones; and the muscles, especially their origins and insertions, are defined by lines of different colours; and copious synonyma, with the new names of M. Dumas, are added. This last nomenclature is certainly useful and interesting, from the names being taken from their attachments alone. This plan of Mr. Carpue's, of giving maps, as they are called, of the muscles, is entirely new, and will prove of the utmost utility to students of anatomy.

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#### FOREIGN BOOKS.

ART. X. *Œuvres chirurgicales, &c.: i. e. The Works in Surgery, or an Exposition of the Doctrine and Practice of P. J. Desault.* By X. BICHAT, his Pupil. A new Edition, corrected and augmented; with plates. Large Octavo. 10 livres.

THE discoveries of Desault, the mode in which his pupil has presented them, and many facts which he has added, promise to secure to this edition a success equal to that of the first.

[*Journal de la Lit. de Franc. N° VII. Année 9.*

ART.



ART. XI. *Traité de la Dyssenterie en general, &c.: i. e. A Treatise on the Dysentery in general, with a new Method of Cure.* By J. C. JACOBS: Octavo. Brussels and Paris.

THE labours of Dr. Jacobs have produced nearly the same result as those of Zimmerman, as far as respects the theory of the disorder. The principal innovations are with respect to the method of treatment which ought to be adopted. After having examined the effects of emetics and purgatives in this disorder, M. Jacobs explains himself respecting his new method, which consists in administering cooling and lenitive medicines, with a view to diminish the inflammation; and narcotics, to produce a cure.

After having recited many successful cases, the author supports his theory by the authorities of *Bontius*, *Ramanzini*, *Frederick Hoffman*, and others, to establish the efficacy of opiates and other narcotics in the treatment of the dysentery. He concludes in these terms: "The effects of opium are so marvellous, so prompt, and certain, its use so easy and efficacious, that it may be considered as the most certain antidote against the dysentery, even when at its worst stage.

[*Journ. de la Lit. de France*, N<sup>o</sup> VII. Année 9.

ART. XII. *Table synoptique de la Neuralgie, &c. i. e. A synoptical Table of Neuralgy, agreeably to the methodical Nomenclature of Anatomy.*

THIS Table is the production of Citizen *Chaussier*. The information he gives on the symptoms of the various kinds of neuralgy agrees perfectly with the predominant character of that affection, which consists in pain, sometimes lively and gnawing, sometimes with torpor and gathering; more frequently with pulsations and successive shootings, which return by fits more or less regular, and without any apparent change in the parts affected. That part of the table which is entitled *Observations*, is distinguished as much for the precision with which the remote and proximate causes are pointed out, as by the prognostics and the means of cure which it presents. [*Journal de la Lit. de France*, N<sup>o</sup> VII. Année 9.



170 *Receuil periodique de la Societ  de Medecine   Paris.* [March,

ART. XIII. *Refutation de la nouvelle Doctrine des Solidistes:*  
i.e. *A Refutation of the new Doctrine of the Solidists.* By  
J. B. and H. F. MAURICE. Octavo. 200 pages. Paris.  
2½ livres.

THIS work is divided into two parts. The first is consecrated to the doctrine of *Brown*; the second is to combat the theory which some physicians of Paris have endeavoured to bring into repute, and which, according to our author's ideas, is no other than the theory of *Brown*.

[*Journal de la Lit. de France*, N  VII. Ann e 9.

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ART. XIV. *Receuil periodique de la Societ  de Medecine   Paris:* i.e. *Periodical Collection of the Society of Medicine at Paris.* Edited by SEDILLOT the younger. N  LVII. and LVIII. for Prairial and Messidor of the Year 9. Paris.

THIS collection, which is now united with the *Litterature medicale Etrangere*, contains seven sheets in each number instead of five: the price for twelve numbers is 16 livres. The articles in the fifty-seventh number are, 1. Description of a Skeleton of a ricketty Girl, by Citizens *Morlanne* and *Charmeil*—2. Description of a F etus born with two Heads, by the same—3. Insertion and Distribution of the umbilical Vessels in the Membranes of the Chorion and Amnion, by the same—4. On the Use of the Obturators of the Palate, by Citizen *Dubois*—5. Memoir on a preserving Vase, for the Use of Surgeons and Apothecaries, and for making of fine Colours, by Citizen *Lescot*—6. Meteorological Observations—7. Extract from the Observations communicated to the Medical Society on the prevailing Disorders in the Month of Floreal in the Year 9—8. Observations on veterinary Medicine, by Citizen *Deplas*—9. Extracts from two Observations on two arterial sanguinary Tumours, cured by Operations, by Citizen *Boyer*—10. Notices.

In the fifty-eighth number are, 1. A Report of the Vaccine Commission—2. On an epidemical Malady prevailing at Courtray, by Citizen *Vandorpe*—3. Report on the second Memoir of Citizen *Maunoir* on the Aneurism—4. Observations on a lymphatic Tumour of considerable Size, by Citizen *Texier*—5. Essay on the Preparation of muriatic  ther, by Citizen *Boully*—6. Meteorological Observations—7. Extract from



from the Observations on the Diseases of the Month of Prairial—9. Medical Literature.

[*Journal de la Lit. de France, N° VII. Année 9.*

The contents of the fifty-ninth and sixtieth numbers are not yet come to hand.

In the sixty-first number are, 1. Observations of Citizen *Lecheverel* on a Disorder of the Back and Breast—2. Observations and Reflections on a strangulated Hernia, which had returned after an Application of Vinegar and Water, with a Continuation of the Accidents attending the Strangulation after the Reduction, by Citizen *Brasdor*—5. Meteorological Observations—6. Extracts from the Observations communicated to the Society on the prevailing Disorders of the Month of Fructidor in the ninth Year—7. Veterinary Observations, by Citizen *Deplas*—8. On some Imperfections and Abuses of Words used in Medicine, a Dissertation read at the School of Medicine, by *T. S. Heriart*—9. and 10. Extracts from two other Dissertations, one on the Cholera Morbus, by *J. B. D. Bard*; and another on Jaundice, by Citizen *Lacoste*—11. Medical Literature.

[*Journ. de la Lit. de France, N° X. Année 9.*

ART. XV. *Nouvelle Dictionnaire de Santé, &c.*: i. e. *A new Dictionary of Health, and of physical and moral Education. An elementary Work, adapted to the Capacity of every Citizen.* By L. C. MACQUART. A new Edition, enlarged. Octavo.

THE author of this work has applied himself to destroy the prejudices, and to point out proper precautions to the different orders of society, as well as to give advice in those various accidents which require the most speedy relief.

[*Journal de la Lit. de France, N° VIII, Année 9.*

ART. XVI. *Histoire des Maladies de l'Armée des Pyrennées occidentales*; i. e. *A History of the Disorders of the Army of the western Pyrenees.* By JAMES TERRIER. Duodecimo.

A useful and instructive work to those young medical men who practise in the armies.

[*Journal de la Lit. de France, N° VIII. Année 9.*



ART. XVII. *Tableau synoptique et physiologique de la Vie :*  
i. e. *A synoptical and physiological Table of Life, considered*  
*with respect to Man and domestic Animals.* Duodecimo.

THIS Table exposes with clearness and precision all those links which connect animal life with the phenomena, either general or particular, and the latter with the functions, actions, and organs. Such tables have the advantage of presenting, in one view, the whole of a science, to any one who has lost the knowledge he had formerly acquired.

ART. XVIII. *Observations et Decouvertes, &c.:* i. e. *Observations and Discoveries, read in several literary Societies.*  
By Citizen LAFOSSE. Duodecimo. 1 liv. 20 cents.

THIS collection presents six memoirs on different diseases which affect domestic animals, and in which M. Lafosse supports his character as an exact observer, and a writer equally useful and impartial. They are, 1. An Essay on the Delivery of female Quadrupeds—2. Another on the different Kinds of Glanders which attack Horses, and the Discovery of that called *superpharyngiën*—3. A Memoir on an epigastric Disorder, which, during the Years 5 and 6, carried off many Cows in the Canton of Brai—4. Another on the Advantages which may be drawn from the Section of the aponeurotic muscular Ligament—5. A Memoir said to contain some curious Experiments on the Use of those Portions of the Hoof of the Horse called Chesnut Spurs—The 6th is called Observations on gangrenous Ecchymoses, commonly called Whitlows.

[*Journal de la Lit. de France*, N° VII. Année 9.

ART. XIX. *Journal der Pharmacie für Aerzte, Apotheker, und Chemisten:* i. e. *Journal of Pharmacy, for the Use of Physicians, Apothecaries, and Chemists.* By TROMMSDORFF, 6th Number. Leipsic.

THE articles of this number are, 1. Alkalis recommended as efficacious Remedies in many serious Disorders, by D. Stür—2. Observations on the Dropsy in general, and the Means of curing



curing it, by *D. Moriz*—3. On Emetics, by *Dr. Fischer*—3. Observations on the Cow-pox Inoculation, by *De Carro*, of Vienna—5. On the good Effects of Oil in Medicine, by the Editor—6. On the Erysipelas on new-born Infants, by the same—7. Of *Reich's* Method of Treatment of Fevers, by the same—8. Preparations of sulphurated Ammoniac, by the same—9. Efficacy of Manganese Ointment in the Itch—10. Of the nitrous Acid, by *Beddoes*—11. Of the Use of the Sea, or salt Bath, in gouty Affections, by *Gerault*.

[*Journ. Gen. de la Lit. Etrang. N° IX. 9th Year.*

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ART. XX. *Almanach oder Taschenbuch für Scheidekunstler und Apotheker: i. e. Almanack, or Pocket-book, for Chemists and Apothecaries, for the Year 1801.* With a plate.

THIS Pocket-book has now been published for twenty-two years, and has always supported itself with equal credit. The author, *M. Goëttling*, professor at Jena, has every year preceded it by an Almanack, in which the names of the saints in the old calendar are replaced by those of the most celebrated chemists and apothecaries of all nations, ancient and modern. Each month is likewise accompanied by a list of such chemical and pharmaceutical operations as are analogous to the season; which gives to the work an additional degree of interest, particularly for apothecaries. It will be seen, however, by the following list of its contents, that theoretical chemistry is not neglected, and that it is not destined solely to pharmaceutical operations. The contents are, 1. Sketch of the most important chemical Discoveries of the eighteenth Century—2. Of the Preparation of Sugar from Beet, with the Process for extracting and crystallizing it, and separating the Syrup—3. New Experiments with the Residue of the Beet after the Sugar is extracted—4. Of the Oxidation of Earths by Water—5. New Results from the Deflagration of Phosphorus in several Kinds of Gases—6. On the chemical Characters—7. Memoir concerning the Effects of Galvanism, by *Ritter*—8. Chemico-pharmaceutical Literature.

[*Journal de la Lit. Etrangere, N° XI. Année 9.*



## MEDICAL INTELLIGENCE.

Art. 21. *Dr. Beddoes's Essays on Health.*

THE fourth Number of Dr. Beddoes's "Popular Essays on Health" contains an account of the manner in which the youth of the male sex lose their health, and of the influence of the changes in the manner of living that have taken place (particularly in the course of the last half century) upon the constitution and longevity of our tradesmen, merchants, country gentlemen, and persons belonging to the professions.

Art. 22. *Dr. Darwin's new Work.*

Dr. Darwin, the author of the Botanic Garden, is engaged on a new poem, to be entitled the "Temple of Nature." This, like his former poem, will be divided into two parts; the first may be expected some time in the course of the next spring.

Art. 23. *Mr. Boardman's veterinary Work.*

Mr. Boardman, veterinary surgeon to the third regiment of dragoons, has in the press, a "Dictionary of the veterinary Art," which will be published shortly, in two volumes quarto, with anatomical plates.

Art. 24. *Hatching of Chickens.*

Mr. Pratt, of Suffolk, who has been formerly in Egypt, has lately produced a clutch of sixty-seven chickens, without the eggs being ever sat upon by hens. The method he used was the same that has long been pursued in Egypt, namely, the employment of a moderate and equal heat. The little animals, by preserving a proper temperature, seem to thrive not a whit the less for being motherless. This plan may probably be employed with great advantage in the breeding of turkies, which are extremely tender and difficult to rear, being peculiarly susceptible of the transitions of the weather. Mr. Pratt placed the eggs in fine sand, in a hot-house, the heat of which he regulated by a thermometer.

Art. 25. *Galvanism.*

Almost every day is productive of some new discovery in this branch of science. A gentleman in London has, a few days ago, received a letter from Germany, which informs him that all the different phenomena produced by alternate plates of zinc and silver have been produced by magnetism.

In our last, we mentioned Van Marum's experiment, which has lately been repeated here, by Dr. Garnett and Mr. Cuthbertson,



bertson, who succeeded in charging a large electrical battery by means of Cruickshank's galvanic trough. One end of the trough was connected, by a wire, with the outside coating of the battery, while the other end was brought for an instant in contact with the inside of the battery by means of a glass-handled discharging rod. Very sensible shocks were then obtained from the battery.

Art. 26. *Thermo-lamp.*

A new invention has lately attracted much attention at Paris; it is called the *thermo-lamp*: with the smoke of five or six logs of new wood, weighing ten or twelve pounds each, reduced to a state of gas by distillation, the inventor, Citizen Lebon, an engineer, was able, for the space of twenty-four hours, to spread throughout seven large apartments the mildest heat, and the most vivid light, and, at the same time, to enlighten a large garden, in such a manner as to make it appear like noon-day. The flame can be shewn detached from all support, and can be modelled to any shape. When inclosed in a crystal globe, the flame by no means soils it. It appears to us, that the heat applied to the wood, during the distillation, converts it into *gaseous oxyd of carbon*, which was discovered by Mr. Cruickshank, about a year ago, and shewn by him to be capable of burning like hydrogen gas.

Art. 27. *Zircon Earth.*

This earth, which had hitherto been only found in the jargon of Ceylon, has lately been discovered, by Tromsdorff, in a red garnet from Greenland.

Art. 28. *Titanium.*

An ore of titanium, lately received from Botany Bay, has been analysed by Mr. Chenevix: it bears a considerable resemblance to the menachanite of Cornwall, and consists of forty parts of oxyd of titanium, forty-nine of oxyd of iron, and eleven of silix.

Art. 29. *Mineral Waters of Plombières.*

These mineral waters have long been remarkable for containing, in perfect solution, a substance, which, by some chemists, has been called bituminous, and, by others, has been supposed of animal or vegetable origin; the distinguishing character of which was to communicate to the water, after standing a few days, a putrescent odour, not unlike that of sulphurated hydrogen. From a late accurate analysis of this water by Vauquelin, it appears to contain in each pint,

Sulphat



Sulphat of soda	$1\frac{1}{6}$ grains
Muriat of soda	$\frac{5}{8}$
Silex	$\frac{2}{3}$
Carbonat of lime	$\frac{1}{4}$
Carbonat of soda	$1\frac{1}{2}$
Animal matter	$\frac{1}{4}$

This animal matter has a great resemblance to albumen, and is held in solution by the soda, which appears not to be fully saturated with carbonic acid; on the addition of an acid sufficient to saturate the alkali, an immediate flocculent precipitate falls down, which is the animal matter.

Art. 30. *Dr. Garnett's Lectures.*

Dr. Garnett, who is at present engaged in lectures on Chemistry and Physiology, proposes, on the first of March, to begin a course on *Experimental Philosophy*. This course will consist of fifteen lectures, and will be illustrated by experiments with a very complete apparatus. The lectures will be delivered every Monday and Friday; and, to accommodate the subscribers as much as possible, each lecture will be delivered twice in the day: viz. at one o'clock P.M. and at eight o'clock in the evening.

*Persons who reside abroad, and who wish to be supplied with this Work every Month as published, may have it sent to them, FREE OF POSTAGE, to New York, Halifax, Quebec, and every Part of the West Indies, at Two Pounds Ten Shillings per Annum, by Mr. THORNHILL, of the General Post Office, at N° 21 Sherborne Lane; to Hamburgh, Lisbon, Gibraltar, and every Part of the Mediterranean, at Two Pounds Ten Shillings per Annum, by Mr. BISHOP, of the General Post Office, at N° 22 Sherborne Lane; to the Cape of Good Hope, and every Part of the East Indies, at One Guinea and a Half per Annum, by Mr. GUY, at the East India House; and to every Part of Ireland at Two Guineas per Annum, by Mr. SMITH, of the General Post Office, at N° 3 Sherborne Lane. It may also be had of all Persons who deal in Books at these Places, and in every other Part of the World.*



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ART. I. *Observations on the Increase, and Decrease of different Diseases, and particularly of the Plague.* By WILLIAM HEBERDEN, Jun. M.D. F.R.S. Quarto. 96 pages. PAYNE, London. 1801. Price 5s.

THE materials of this work are principally drawn from the weekly bills of mortality, which the author has carefully examined, for the purpose of obtaining information concerning the comparative state of disease in the metropolis at different periods. Those public documents have, he observes, by some been considered as altogether vague and uncertain, by others as free from any material errors. While he admits, however, some very important defects in the mode of forming them, he is of opinion, that “the agreement of the bills with each other, does alone carry with it a strong proof, that the numbers under the several articles are by no means set down at random; but must be taken from the uniform operation of some permanent cause.”

The imperfections which he enumerates in the bills of mortality arise, 1st, from the baptisms and burials of many sectaries not being included in them; 2d, from there being many populous parishes of the metropolis without the bills of mortality; 3d, from the abortives and still-born being noticed in the deaths, but not in the births; and, 4th, from the mistakes and misrepresentations to which the particular diseases are liable.

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The author has taken the trouble of making out from the bills of mortality two tables, which are the foundation of several remarks in the subsequent part of his work. The first is a table of the annual christenings and burials in London, for each year of the eighteenth century; together with the proportion out of every thousand who have died by bowel complaints, small-pox, palsy, measles, or childbirth. The second contains ten different articles, shewing their variations every week for ten years at two different periods, viz. from 1763 to 1767, and from 1795 to 1799 inclusive. These articles are, the whole number buried; those buried under two years of age; those buried above sixty; those who died of apoplexy, palsy, or suddenly; of childbed and miscarriage; of consumption; fever; colic, flux, gripes, and looseness; measles and small-pox. In the later years of this register, for the fifth, eighth, ninth, and tenth articles, were substituted those who died between twenty or fifty years, and those who died of convulsions, asthma, and dropsy.

Several important observations, of which we shall give an abstract, are made by the author on the increase and decrease of different diseases, deduced from the data afforded him by the bills of mortality. He first considers the variation in the whole numbers christened and buried. "The annual mortality," he observes, "appears by the parish clerks' returns to have increas'd from the beginning of the century to the year 1720; to have been at its greatest height from 1720 to 1750; and from that time gradually to have decreased.

"In the mean time, the christenings increased from 1700 to 1727; then decreased to 1740; were at the lowest between 1740 and 1760; and from that time have gradually increased.

"That both the christenings and burials should have become more frequent during the first thirty years, can be no matter of surprise, when we consider the increase both in number, and size, of the out-parishes. For it will be found upon examination, that the increase has been confined to them alone.

"On the other hand, the subsequent decrease of burials has taken place only in the city parishes; and is, no doubt, owing to people living wider, and taking up more room than formerly. They no longer submit to the inconvenience of being crowded several together under a single roof. But many merchants with their families, and many merchants' clerks also, who used also to live in the same house, now retire, especially when they are sick, to others situated without the limits of the bills of mortality, or at least without the city."



It is an observation well worthy attention, that the dysentery, known by the name of bloody flux and griping in the guts, has been for many years gradually on the decline. In the seventeenth century the deaths from these complaints "appear never to have been less than one thousand, and some years to have exceeded four thousand; and for five and twenty years together, from 1667 to 1692, they every year amounted to above two thousand. But from the beginning of the eighteenth century things were materially changed. After the year 1733, the article of *griping in the guts* was joined to that of *colic*;" and the average annual number of deaths, from bloody flux, colic, and gripes, during periods of ten years, between 1700 and 1800, gradually decreased from one thousand and seventy to twenty. The cause of this favourable change the author attributes to the various improvements of the metropolis, particularly with respect to cleanliness and ventilation.

The bills of mortality incontestably prove, that since the introduction of inoculation, more persons have died of small-pox than before. "Out of every thousand deaths in the bills of mortality," says the author, "the number attributed to the small-pox during the first thirty years of the eighteenth century, before inoculation could yet have had any effect upon them, amounted to 74. During an equal number of years at the end of the century, they amounted to 95. So that, as far as we are enabled to judge from hence, they would appear to have increased in a proportion of above five to four.

"I cannot refuse myself the satisfaction of stating on the other hand, from the printed accounts of the Small-pox Hospital, where from their numbers the truth can best be ascertained, that while by the natural small-pox there dies one in six, from the inoculated small-pox three hundred and ninety-nine out of four hundred recover."

The following judicious observations on the bad effects of partial inoculation we shall give in his own words. "The poor, who have little care of preserving their lives beyond the getting their daily bread, make a very large part of mankind. Their prejudices are strong, and not easily overcome by reason. Hence, while the inoculation of the wealthy keeps up a perpetual source of infection, many others, who either cannot afford, or do not choose, to adopt the same method, are continually exposed to the distemper. And the danger is still increased by the inconsiderate manner in which it has lately been the custom to send into the open air persons in every stage of the disease,



disease, without any regard to the safety of their neighbours. It is by these means, that, while inoculation may justly be esteemed one of the greatest improvements ever introduced into the medical art, it occasions many to fall a sacrifice to what has obtained the distinction of the *natural* disease. This must always be an objection against making any great city the place for inoculation, until the practice is become universal among all ranks of people."

The deaths from apoplexy, palsy, and suddenly, have been upon the increase since the beginning of the eighteenth century, and are now about double what they were one hundred years ago. On the cause of this variation the author has not formed a decided opinion.

"The deaths imputed to the measles are very remarkably different in different years; sometimes amounting to one thirtieth of the whole number of deaths, and at other times falling short of one in four thousand." The author is of opinion, however, that scarlet fever and malignant sore throat may have been confounded with measles, particularly as Morton seemed to think them similar complaints.

A table which is inserted from the records of the Brownlow-street Hospital, gives a very favourable statement of the diminution of mortality among childbed women and children. For the first ten years after its establishment in 1749, the average number of deaths annually among childbed women was as 1 to 42, and among the infants as 2 to 15; but from the year 1789 to 1799, the proportion among the women has been only as 1 to 288, and among the children, as 1 to 77; and in the years 1799 and 1800 it has been still further reduced. This register exhibits, however, a sensible increase in the number of still-born children.

From a statement drawn out by the author, of the proportional deaths from certain diseases at the beginning, middle, and end of the eighteenth century, it appears, that rickets and scrofula have been gradually upon the decline; but that consumption, gout, lunacy, and palsy, have greatly increased. "It does not appear by the bills of mortality," the author observes, "that the number of deaths from dropsy was increased by the act passed in 1690, for the encouragement of the distillation of malt spirits. Between the years 1718 and 1751, the average number is one tenth greater than at any period before or since. In 1751 the distillation of spirits was restrained by act of parliament, and the use of them checked by additional duties. Petitions were the year after sent up to parliament



parliament from various parts of the kingdom, setting forth the good effects of these regulations upon the morals and health of the people, and praying for a continuance of them. And the bills of mortality seem to confirm this, by the article of dropsy falling from above one thousand annually to nine hundred, and still more by the reduction of excessive drinking from forty to five."

The author now presents us with some general deductions from the weekly table of mortality, which appear to us curious and important.

1. "The whole number of deaths is greatest in January, February, and March; and least in June, July, and August;" and making allowance for the shortness of the month, February seems to be the most fatal of the twelve. This deduction is contrary to general opinion on the subject; but accords with the registers which Dr. Short collected from twenty-five country towns in England; and also with those kept at York, Edinburgh, Paris, and throughout the kingdom of Sweden. On the other hand, at Marseilles and Montpellier, probably, as the author thinks, from the great difference of temperature between those places, and the North of Europe, the mortality is greatest in July, August, and September.

2. "Under two years of age, there die most in January, February, and March, or else in September and October." The mortality in the early months of the year seems to the author to arise, from there being a greater number of births at that period, than any other throughout the year, and from the first two and three months of life being particularly fatal. The mortality in September and October he accounts for, from the general prevalence of bowel complaints in those months, and from those forming a large part of the diseases of infants.

3. "Of those aged above sixty years, by much the greatest number die in the coldest months, and the fewest in the middle of summer." This the author imagines to arise from the effects of cold being particularly inimical, and those of heat favourable to old age; for in the winters 1795 and 1796, which were remarkable, the one for severity, the other for mildness, the number of deaths were in the former 2823, and in the latter 153 only.

4. "The number of deaths by palsies and apoplexies is, in this country, always greatest in winter," probably, as the author imagines, from their being diseases of old age, and therefore influenced by the same causes which influence the general mortality at that time of life.

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5. "Consumptive people are of course sufferers by cold; and though they are not so soon affected from this cause as the asthmatic and aged, yet their numbers in the bills are always greatest in the cold months.

6. "However the number of bowel complaints have been lessened within the last hundred years, we still find them most frequent in September and October.

"In all hot countries these disorders are observed to be more common, and more violent, than they are with us; and here in England they are most prevalent after the hottest summers."

7. "The remaining diseases, of which an account has been taken in the table, seem to have no certain increase or decrease. The measles and small-pox are exceedingly various, and without any apparent relation to the temperature, moisture, or other sensible qualities of the seasons. The same is in general true of fevers, with this exception, that in long and severe winters they are certainly more numerous, as at that time many poor families are reduced to the necessity of shutting themselves up, perhaps several together, in a small room, where they can afford to burn little or no fire, and where the best defence against the rigor of the season is to preclude as much as possible all access to the external air."

The following curious remarks on some general misapprehensions on the effects of different kinds of weather, we shall give in the author's own words. The principal part of them appeared in a communication from the author, published in the *Philosophical Transactions* for 1796. "From the weekly table of mortality we are enabled to correct some popular errors, which are very generally prevalent. One of these is, that there is something peculiarly wholesome in a sharp frost; another, that wet weather is noxious to the human body, and in particular that it is productive of putrid diseases. After what has been stated above, and what may be seen more at large in the *Philosophical Transactions* for the year 1796, there need not many arguments to disprove the first of these opinions. The year 1797 affords a very favourable opportunity of ascertaining that the other is equally unfounded. That year, from the middle of May, was one of the wettest ever remembered; yet so far was this from rendering it prejudicial, much less pestilential, that, whether we attend to the united sum of the deaths, or to the particular articles of which it is composed, we shall find reason to believe it was in every respect a healthy year. The same was observed also during the American war among



among the soldiers encamped at Coxheath in Kent, and it has occasionally been noticed at other times. The mistake has in both cases probably originated from the known influence of heat and moisture in promoting putrefaction, and they are not the only instances of people being misled by a name. But the cook and the chemist should be informed, that arguments drawn from a kitchen or a laboratory, must not be too confidently transferred to the operations of a living body.

“ There is reason to think that another idea has been adopted by many people upon not much better grounds than the former. For it has been imagined, that neither heat, nor cold, are in themselves pernicious, but that it is the rapid transitions from one to the other which are alone to be dreaded. If this opinion carry with it an appearance of probability, such facts at least as are afforded by the bills of mortality at the end of the year 1796 and beginning of 1797, do in no wise correspond with it. The great and sudden changes of temperature at that period are too recent to be forgotten. Before the middle of December 1796 it froze hard for several days, and presently after thawed again: Christmas morning will long be memorable for the greatest cold perhaps ever experienced in England, Fahrenheit’s thermometer in London standing below zero; but in less than a week the same thermometer was above  $50^{\circ}$ . The month of January following continued to exhibit frequent and very uncommon variations of heat and cold; yet the mortality all this time did not exceed its usual limits.

“ The same opinion has been very commonly applied to the breaking up of a long frost; people in general being more apprehensive of bad consequences from the succeeding thaw, than from the cold itself. But this admits of a similar answer to the former. For the frost in the beginning of the year 1795 ended with the month of February, though the weather continued indeed to be colder than usual throughout the March following.”

The same effects were, he adds, observed in the frost which is known to have set in the 24th of December 1739, and to have continued till the 16th of February 1740.

The author now proceeds to the second part of his work, in which he makes some observations on the plague, and the circumstances which have tended to its increase or diminution. Various opinions have been entertained on the place where the plague first appeared, and from which it spread to other regions. It seems to the author, however, sufficiently apparent, “ that its head quarters have always been in the dirtiest parts



parts of dirty, crowded, ill-constructed, large cities." This is supported by the state of Constantinople, Cairo, and various other places, in which it is either now occasionally known, or has formerly committed its ravages. It has generally, too, been in the most crowded and impure parts of large cities, where it has first made its appearance, of which the author gives numerous examples.

A certain state of the air is, with propriety, considered by the author as necessary for the ravages of the plague; for though this disease is contagious, yet we find that at some periods its progress is interrupted without any obvious cause, and that, at others, it does not appear at all, though apparently the situation of things is the same. Its chief force has generally been felt in summer and autumn.

Whether or not the plague was ever actually generated in London, the author thinks it would be impossible to prove; but he is of opinion, that "if its origin were derived from foreign contagion, at least its propagation ought in great measure to be attributed to some predisposition of the town in those days, which has since been corrected." The state of our metropolis at the periods when the plague was wont to visit it, was, on account of the narrowness and filth of the streets, and the crowded state and the want of cleanliness of the houses, highly favourable to disease. The ventilation of the streets was interrupted by enormous sign-posts, and the town was very scantily supplied with water. What effect this state of things had upon the health of the inhabitants, may be judged of from the prevalence of intermittents, dysenteries, jail fevers, and scurvy. The plague, as well as the putrid diseases now mentioned, prevailed greatly at those times, when the condition of the town was most offensively dirty, and gradually with them began to decline, when the causes producing them were removed.

The disease can scarcely be said to have worn itself out, for it continues still in Turkey, at least as frequent as at any former period, and in many other countries has been severely felt, in various parts of the eighteenth century. The plague has very often been preceded by a severe putrid fever, and many writers of reputation consider it as only a more malignant species. On this subject the author observes, that "if an accumulation of the causes of putrid fevers cannot produce a plague; at least it seems capable of producing a predisposition to it, where the leaven of the plague, however introduced, presently exalts the reigning fever into its own nature; super-  
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adding its proper characteristic symptoms to such as are common to both diseases." The author gives the following recapitulation of his observations on this subject, with which he concludes his essay: "We have shewn then, that the streets of London were formerly very close and dirty, and the houses within very slovenly: we have shewn also in a former part of this essay, that the inhabitants lived crowded together, probably not less than twice as many in the same space they occupy at present. By pointing out the diseases which prevailed in those times, we have shewn what influence this state of things appears to have had upon the health of the people; and how the effect, and the cause, have declined together: we have shewn from the testimony of eye-witnesses how nearly the plague is allied to these other diseases; how common it was at the same time with them; and how it has also disappeared with them: we have shewn moreover, that the presence of infectious matter is not alone sufficient to make the disease epidemical; but that some concurrent state of the air, and of the human body, is likewise necessary. I flatter myself therefore we shall be justified in drawing this conclusion: that our long exemption from the plague is not so much to be attributed to any accidental absence of its exciting causes, as to our own change of manners, our love of cleanliness, and ventilation, which have produced amongst us, I do not say an incapability, but a great unaptness, any longer to receive it."

We have derived much pleasure from the perusal of the present publication, in which the author has displayed a considerable share of judgment and research. Great practical advantage, it appears to us, may accrue to the science of medicine from a proper use of the public documents of the state of the weather, and of diseases, which are kept in the metropolis, particularly if several populous districts, mentioned by the author, were included in the bills of mortality.

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ART. II. *Essays on the Diseases of Children, with Cases and Dissections. Essay I. Of Cynanche Trachealis, or Croup.* By JOHN CHEYNE, M.D. Fellow of the Royal College of Surgeons of Edinburgh. Royal octavo. 72 pages. LONGMAN and REES, London. 1801. Price 15s.

THE object of the author in these Essays will be best explained by the following abstract from his introductory observations:

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servations: "My design," says he, "is to discuss, in separate essays, the most important of the diseases of children, beginning with those, as less intricate, to which children, after being weaned, are exposed, and proceeding afterwards to those which attack infants at the breast. My hopes of being useful rest upon the fidelity of my observations, and the minuteness and accuracy of detail, where I may have been enabled by dissection to elucidate any important points in the nature and history of the diseases of which I treat.

"In this essay, which I now venture to publish, I have attempted the discussion of one of the most interesting diseases, the most alarming in appearance, and in reality one of the most dangerous to which a child can be exposed. These motives might alone have been sufficient to lead me first to the discussion of the subject I have chosen; but in my situation I found an additional motive, of great influence. To this disease children are peculiarly exposed in the town where I practise; and the opportunities which this frequency has afforded me of observing it in all its stages, and also of tracing, after death, the appearances and nature of the disease, have given me a confidence in what I have to lay before the public, which I could not otherwise have attained.

"With regard to the way of treating the subject, I have been chiefly solicitous to establish such facts as might serve as the sure foundation of safe and effectual practice. It is not unbecoming to say, that my histories are accurate, and that the dissections have been careful. These are points of acknowledged importance, and will free me from any imputation of rashness. In the body of the essay, however, I have not dwelt much on the morbid appearances, because I am sensible that the engravings which accompany the cases will explain those appearances more accurately than the most laboured or lucid description.

"It is the singular good fortune of this first essay to have received these illustrations from a gentleman \* well known to the medical world by his excellent anatomical works, who, to a masterly use of his pencil, joins the most consummate knowledge of morbid anatomy; and I need scarcely add, that it receives its chief value from this exertion of his friendship."

"Cynanche trachealis" the author defines "an inflammatory affection of the trachea, which, in the progress of the disease, is accompanied with an effusion which becomes a

\* Mr. Charles Bell.



tubular membrane, lining the inflamed surface." This definition, which differs little from that employed by Dr. Michaelis, (who is quoted frequently by the author,) appears to us improper, inasmuch as it does not point out the characteristic marks or symptoms by which the disease may be distinguished from all others before death, and which are certainly what we are to expect from a definition according to the general language of nosology. The connexion between the distinguishing train of symptoms, and the appearances which dissection lays open, form the rational basis of our curative indications; but in establishing a distinction which is to be useful in practice, those symptoms should be selected, from the history of the disease, as a definition, which, in their nature or connexion, form a proper ground of discrimination from all others. For this reason, we have no doubt in preferring the definition given by Dr. Cullen to that brought forward by the author.

After a few observations on the history of the disease, which add nothing to what has been mentioned by the various writers on this subject, the author proceeds to enumerate its symptoms and progress. "The croup," says he, "is less known in the temperate than in the northern regions of Europe. Peculiar to no season, it however chiefly appears in the winter and spring, in low situations exposed to air passing over large bodies of water; and it is most especially the disease of sea-port towns. It is very prevalent in cold changeable weather, often appearing after a cloudy and hazy day; insomuch that I have seen a mother, into whose family the disorder had been a frequent intruder, kept in constant anxiety by this condition of the atmosphere.

"The croup chiefly prevails in children from a short time after birth until puberty; attaching itself to particular families; and generally attacking the most robust and ruddy children. It does occur, but more rarely, in children exhausted by some other disease.

"The disease generally comes on in the evening, after the little patient has been much exposed to the weather during the day, and often after a slight catarrh of some days standing. At first his voice is observed to be hoarse and piling; he shuns his playfellows, and sits apart from them, dull, and, as it were, foreseeing his danger. His illness, indeed, does not prevent him from going to sleep, but soon he wakes with a most unusual cough, rough and stridulous. And now his breathing is laborious, each inspiration being accompanied by



a harsh shrill noise, most distressing to the attendants: his face is swelled and flushed, and his eyes bloodshot; and he seems in constant danger of suffocation: his skin burns, and he has much thirst; he labours more and more in breathing; still the ringing noise is heard, and the unusual cough; he tries to relieve himself by sitting erect; no change of posture, no effort, gives him relief. Generally his sufferings are thus protracted until morning, when perhaps there is a slight remission; his breathing is a little easier, but the anxiety, the fever, and the cough remain; he is soon as ill again as ever; and these symptoms continuing, weakened by the violence of his illness, with purpled lips and leaden countenance, he dies in two or three days. In other cases, the disease, after continuing some time, appears suddenly alleviated: the breathing is free, the child soon becomes cheerful, his appetite for food returns, he amuses himself, and seems perfectly recovered, and the hope of every one is raised, only to make the disappointment more keen; for the child suddenly gets worse, and dies, his livid and swoln face and convulsive struggles giving him the appearance of one that is strangled.

“When croup is favourable, it terminates in various ways. Most commonly, after the disease has arrived at its height, the sequel is as it were a retrogression of the attack; there is poured out a moisture on the skin, the fever declines, and the croupiness, and, lastly, the cough, gradually wear away.

“Sometimes, after the disease has continued a few days, a viscid and white substance is expectorated, and the child is relieved: sometimes the croup is chronic, and does not subside for weeks, when the resolution is very gradual, the child now and then coughing up portions of this white membrane.”

The neck and fauces are little affected in this disease. “Upon dissecting the body, the cause of these alarming symptoms becomes sufficiently obvious. When the child dies after an illness of three, four, or five days, there is found lining the windpipe a white membrane, of considerable tenacity. It arises a little under the larynx, and is sometimes prolonged into the division of the trachea; and generally a quantity of a white fluid, like matter with which the lungs are filled, is seen gurgling up. The attachment of the membrane is slight, but the inner coat of the windpipe is inflamed. The inflammation, which is still perceptible, and which of course must have been more violent before this fluid exuded, I hold to be the immediate cause of the bad symptoms in the first stage of the disease; as the adventitious membrane and puri-  
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form fluid, the consequence of that inflammation, is in the conclusion of it.

“The pathology of croup,” the author continues, “is very simple. When the child dies, the inflammation has terminated by effusion. This effusion is of a lymph, strongly resembling purulent matter; which exuding on the inflamed surface of the windpipe, thickens there, forming the membrane.” That this effusion is generally found on dissection is certainly the case; some few instances are, however, given by authors, in which the trachea was much inflamed, but without any coagulated matter upon its surface. The termination of the inflammation by effusion, is mentioned by the author in a kind of way, which would lead us to imagine that it only occurred in fatal cases; but, from other parts of his work, we cannot suppose that such is his opinion.

The author imagines debility of the trachea to be the predisposing cause of croup: and this he infers from having heard of no examples of the disease after the fifteenth year, about which time a material change in the constitution and in the upper part of the windpipe, takes place, the voice becoming “firm and manly.” He conceives, that “the greater degree of tone with which the trachea is endowed, enables it to resist those excitements which would have operated on the same organ in a lax and less perfect state.” This rationale of the disease appears to us extremely hypothetical. Several instances are mentioned by authors, in which the vox rauca and tussis clangosa, which strongly marked a tendency to this complaint, occurred in adults; and examples are to be found, in which abscesses were discovered after death in the larynx of adults, who were affected during life with croupy symptoms. In females, the same change in the formation of the larynx does not take place at puberty as in men, and we should therefore expect, that, if the author's reasoning were just, there should be many examples in them of cynanche trachealis occurring after that period. Among the adult castrati too, in whom this change of voice does not take place, we do not find that there are any particular examples of the disease recorded by Ghisi, and other Italian physicians.

“On the formation of a plan of cure,” the author observes, that “it is proper to consider the disease as consisting of two stages—the incomplete, or inflammatory; and the complete, or purulent. In the former the membrane is not yet formed; in the latter it is fully formed. It is in the first stage that every effort for the cure of the disorder is to be made.

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In the first stage, our practice is bold, as it is simple; and unless the summary measures taken in the beginning succeed, all success, let the management afterwards be ever so skilful, is very problematical.

“ In the first and second days of illness, when the signs above enumerated are distinctly before us, when we find the croupiness attended with much pyrexia, it is our duty to let blood freely; and to do it effectually, it must be done with the lancet. Venæsection is easily performed, as, from the nature of the disease, the jugular veins are always tumid; and in a child it is easier to let blood from these than even from the veins of the arm. If, indeed, the child is very young, and worn out by a former illness, or of a tender constitution, it may be proper to apply leeches; but it will very rarely happen that we cannot use the lancet; and it is of much consequence to take away a large quantity of blood without delay, it being well known, that to do this suddenly is of the utmost importance in inflammatory diseases.

“ After bloodletting I have been accustomed to order an emetic. I have observed the best effects from emetics, whether used before or after the bloodletting.

“ The warm bath is another very equivocal remedy; but as it is a popular and simple application, it is generally used, along with an emetic, before the physician is called; and together or separately, by their antiphlogistic powers, they in very many instances prevent the formation of the disease.

“ Brisk purges, when the bowels are inactive, and indeed in most attacks, are so obviously proper, that it is sufficient merely to mention them.

“ The solution of tartarised antimony, given every three or four hours, in nauseating doses, I have used with so much advantage, that I have no hesitation in recommending it. The vinegar of squills may be used for the same purpose.

“ The antimomial solution may, in combination with laudanum, be administered as a diaphoretic; but when the febrile symptoms run high, I should prefer giving the solution by itself, so as to occasion a continued nausea.

“ I have seldom omitted the application of a blister to the neck, and I believe it is a valuable addition to the plan of cure, although I cannot affirm this upon my own experience. Blistering has proved, however, so useful in similar diseases, and is so strongly recommended in this, that it is well entitled to every attention.

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“That part of the plan of cure upon which I would chiefly dwell, is bloodletting. If in the inflammatory stage it is not, in the first instance, attended with an abatement of the bad symptoms, it must be repeated according to the strength of the patient. Should the physician dislike the use of the lancet a second time, (and indeed in this repetition he will not at all times have the concurrence of the parents,) I recommend the application of a number of leeches to the neck.

“The second stage of the disease is known by some remission in the phlogistic appearances, such as a change in the countenance from a florid to a leaden colour; by the pulse getting smaller; and by the difficulty of breathing continuing or increasing, the child frequently breathing easiest in postures which might be thought most unfavourable to respiration; and by a sediment in the urine. From having observed in dissections that the thyroid veins are very turgid, I have been induced, in this stage of the disease, to apply leeches to the neck; I have also used emetics, to procure, by the agitation which they produce, the expectoration of the membrane, should it occupy, as sometimes happens, only a small space in the trachea. The bowels are to be kept open by clysters; and the low regimen observed in the first stage is to be laid aside; and the strength of the patient supported.”

Calomel the author has never known serviceable. He considers the proposal of bronchotomy in this disease as absurd, because impracticable; and offers as his principal reason, that, were the operation performed, and the forceps introduced, the membrane may not be found to possess that tenacity which will enable it to bear the pulling out. Such I have found it after death, at the very place where the operation must have been done: and if we loosen the membrane from the trachea, without extracting it, it will meet the first inspiration like a valve, and the child must immediately be suffocated. But farther, Is the child to be cured by extracting the membrane from the trachea? Certainly not; for there are instances where the child has sunk, even after the membrane had, by the use of emetics, been expectorated. Not only the membrane, but the frothy and puriform matter with which the lungs are stuffed, must be removed before he can be saved; for this must be instrumental in the death of the child.”

The author evidently overlooks one reason for the operation being proposed, namely, to allow respiration to be performed, when the larynx, from its spasmodic contraction, refuses a passage to the air. That this is often the immediate cause of death,



death, though dependent, for its production, on the inflammation of, or effusion into the trachea, appears obvious, even from what the author himself states of the occasional termination of the disease. It does not, therefore, appear so extremely absurd as the author would intimate, to attempt any thing, however problematical the success may be, which can give a possibility of relief to an infant in a state of suffocation, particularly when we know that the violence of the symptoms may be produced by an affection of the larynx. Neither is it fair to conclude, without trial, that the membrane will not be found of a tenacity proper for extraction; or, that if it were extracted, the symptoms would not be relieved. For though it be admitted, with the author, that many have sunk after the membrane has been expectorated, yet it must also be allowed, that many have also recovered, and it would be unreasonable to adopt the most unfavourable prognosis. Bursarius related a case in which the operation was performed with success.

The author mentions the means of preventing croup as being "still more obvious than the plan of cure; but we are yet to be informed by him of any that are of universal application. He states, indeed, that some families are more liable to it than others; and that, as he observed the danger greater or less in Leith, in exact proportion to the nearness or distance from the sea-shore, he advised parents to change their habitation as soon as the disorder appeared. Here, however, we are not told how to avoid the effects of that predisposition which certain families have, nor how the disease is to be prevented in other places besides Leith. As we conceive that the author does not confine his observations on the prevention of croup to that place in which he practises, we are of opinion, that his ideas of the predisposing causes of this disease should have been a little more enlarged, in order to have admitted a greater extension of his remarks.

Five cases, which terminated favourably, are given to illustrate the history and plan of cure to be pursued in this complaint: five more are added which terminated fatally, and the dissections of four of them given, with engravings to illustrate the morbid appearances. There is also an engraving of the membrane taken from the larynx, in a case communicated to the author by Dr. Rollo of Woolwich.

The plates are extremely well executed, and give a good idea of the local appearances in this disease. The paper and printing are also of a very superior kind; but those circumstances



stances we view with some regret, as they render the work, which is intended for augmenting the knowledge of infantile diseases, of very difficult access, and therefore not likely to answer the purposes which the author professes to have in view in its publication. The nature and treatment of this disease is now pretty well understood; and though we give the author every degree of credit, as well for the statement of his observations, as his endeavours to call the attention of practitioners to the particular study of infantile diseases, we must be allowed to observe, that little has been added by him to the knowledge of this subject which we before possessed. We think, however, that the plan of concentrating into one work every thing important on the subjects of these Essays is a very useful one, provided it could have been done at a moderate expense.

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ART. III. *Philosophical Transactions of the Royal Society of London, for the Year 1801. Part II.*

(Concluded from page 158.)

WE now resume our analysis of this work.

15. *Account of some Experiments on the Ascent of the Sap in Trees.* In a Letter from Thomas Andrew Knight, Esq. to the Right Hon. Sir Joseph Banks, Bart. K.B. P.R.S.

“The force with which the sap has been proved to ascend, by Hales, banishes every idea of mere capillary attraction. The action of the spiral tubes appears much more adequate to the effects produced; and I readily admit the supposed action of these, wherever they are found; but I have so often attentively searched in vain for them, with glasses of different powers, in the root, in the alburnum, and in the bark, that I cannot but question their existence in those parts. Attached to the central vessels, in the annual shoot, in the fruit-stalk of different trees, in the tendril of the vine, in the leaf, and in the seed, the spiral tubes certainly exist, and are in most cases visible, without the aid of a lens. But, as I have not been able to discover them in other parts of the tree, and as the different authors I have looked into have not distinguished those I call the central vessels from the common tubes of the alburnum, nor marked the difference in the organization of the



annual branch, and annual root, I must venture to call their accuracy in question, though with great deference for their opinions.

“ Linnæus and others have attempted to account for the ascent of the sap, by the expansion of the fluids within the vessels of the plant, by the agency of heat. But the sap rises under a decreasing, as well as under an increasing temperature, during the evening and night, (if it be not excessively cold,) as well as in the morning and at noon : and it is sufficiently evident, that the heat applied to the branches of a vine within the stove, cannot expand the fluids in the stems and roots, which grow on the outside. It is also well known, that the degree of heat required to put the sap into motion, in this plant, is not definite, but depends on that to which the plant has been previously accustomed. Thus, a vine which has grown all the summer in the heat of a stove, will not be made to vegetate during the winter by the heat of that stove : but, if another plant of the same variety, which has grown in the open air, be at any time introduced, after it has dropped its leaves in the autumn, it will instantly vegetate. This effect appears to me to arise from the latter plant’s possessing a degree of irritability, which has been exhausted in the former, by the heat of the stove, but which it will acquire again during the winter, or by being drawn out, and exposed for a short time to the autumnal frost. On the same principle, we may point out the cause why seedling plants always thrive better in the spring than in the autumn, though the weather be apparently less favourable. In the former season, the stimulus of heat and light is gradually becoming greater than that to which the plant has been accustomed ; in the latter season, it becomes gradually less.

“ There is another circumstance attending trees that have been made to blossom early in the preceding spring, which has always appeared to me an extremely interesting one. If a peach-tree, for example, be brought into blossom in one season in the beginning of February, by artificial heat, it will spontaneously shew strong marks of vegetation at the approach of that season in the succeeding year ; and, if it be not well protected, it will expose its blossoms to almost inevitable destruction. I do not see any cause to which this effect can be attributed, except to the accumulated irritability of the plant.

“ That heat is the remote cause of the ascent of the sap, cannot I think be doubted ; and perhaps frequent variations of it are, in some degree, requisite ; (for plants have already ap-  
peared



peared to me to thrive best with moderate variations of temperature;) but the immediate cause will, I think, be found in an intrinsic power of producing motion, inherent in vegetable life; and I hope to be able to point out an agent, by which the mechanical force required may possibly be given.

“ There is, you know, in every kind of wood, what workmen call its grain, consisting of two kinds, the false or bastard, and the true or silver grain. The former consists of those concentric circles which mark the annual increase of the tree; and the latter is composed of thin laminæ, diverging in every direction from the medulla to the bark, having little adhesion to each other at any time, and less during the spring and summer, than in the autumn and winter; whence the greater brittleness of wood in the former seasons. These laminæ (which are of different width in different kinds of wood) lie between, and press on, the sap-vessels of the alburnum: they are visible in every wood that I have had an opportunity to examine, except some of the palm tribe; and these appear to me to have peculiar organs, to answer a similar purpose. If you will examine a piece of oak, you will find the laminæ I describe; and that every tube is touched by them at short distances, and slightly diverted from its course. If these are expansible under changes of temperature, or from any cause arising from the powers of vegetable life, I conceive that they are as well placed as is possible, to propel the sap to the extremities of the branches; and their restless temper, after the tree has ceased to live, inclines me to believe, that they are not made to be idle whilst it continues alive.

“ I shall at present confine my observations to the English oak, though the same are applicable, in a greater or less degree, to every other kind of wood. In sawing this tree into boards, it is usual to cut it, as much as possible, into what are called quarter boards; which are so named because the tree is first cut into quarters. In a perfect board of this kind, the saw exactly follows the direction in which the tree most readily divides when cloven: in this case, the laminæ of the silver grain lie parallel with the surface of the board; and a board thus cut, when properly laid in the floor, is rarely or never seen to deviate from its true horizontal position. If, on the contrary, one be sawed across the silver grain, it will, during many years, be incapable of bearing changes of temperature, and of moisture, without being warped; nor will the strength of numerous nails be sufficient entirely to prevent the inconvenience thence arising. That surface, of a board of this



kind, which grew nearest the centre of the tree, will always shew a tendency to become convex, and the opposite one concave, if placed in a situation where both sides are equally exposed to heat and moisture. You may probably have observed, that when an oak has been deprived of its bark, and exposed to the sun and air, its surface has been every where covered with small clefts. These are always formed by the laminæ of the silver grain having parted from each other; and they will long continue to open and close again with the changes of the weather. In the last summer, I very frequently placed pieces of oak, recently deprived of its bark, in a situation where it was fully exposed to the sun, but defended from rain. The surface of the tree, in a few hours, presented a great number of small clefts, into which I put, in the middle of the day, the points of small iron pins. Examining these late in the evening, I found that the wood closed so much as to hold them firmly; and, early in the next morning, they were not easily withdrawn; but, as the influence of the sun increased, the clefts again gradually opened, as in the preceding day, and the pins always dropped out. I could never discover that any weight was gained by the wood during the night; but I was not provided with a balance of proper sensibility to ascertain this point. This experiment was frequently repeated, and always with precisely the same result. After long exposure to the air and light, the wood loses this property."

These are the sentiments of Mr. Knight respecting the causes of the ascent of sap in trees, which he endeavours to support by observations made on other phenomena of the vegetable kingdom, and on different parts of its organization. The whole of his conclusions are thus summed up, viz.:

"As I have not been able to find the spiral tubes any where, except immediately surrounding the medulla in different parts, in the seed, and in the leaf, and as they every where terminate at short distances, I conclude that the sap is not raised by their agency; nor by the central vessels, to which they are appendages; for these extend no greater length downwards than the spiral tubes, and terminate with them, at the external surface of that annual layer of wood to which they belong; and they have not any apparent communication with the similar vessels of the succeeding year. In the lower parts of hollow trees, they must long have ceased to exist at all; and, in all trees, except very young ones, they are (as it were) ossified within the heart-wood; and those in the annual shoots and buds are  
often



often a hundred and fifty feet distant from the roots, from which they are supposed to raise the sap.

“ The common tubes of the alburnum, (which do not appear to me to have been properly distinguished from the central vessels, by the authors that I have read,) extend from the points of the annual shoots to the extremities of the roots; and up these tubes the sap most certainly ascends, impelled, I believe, by the agency of the silver grain. At the base of the buds, and in the soft and succulent part of the annual shoot, the alburnum, with the silver grain, ceases to act, and to exist; and here, I believe, commences the action of the central vessels, with their appendages, the spiral tubes. By these, the sap is carried into the leaves, and exposed to the air and light; and here it seems to acquire (by what means I shall not attempt to decide) the power to generate the various inflammable substances that are found in the plant. It appears to be then brought back again, through the vessels of the leaf-stalk, to the bark, and by that to be conveyed to every part of the tree, to add new matter, and to compose its various organs for the succeeding season. When I have intentionally shaded the leaves, I have found that the quantity of alburnum deposited has been extremely small.

“ In speaking of the circulation within the apple and pear, I wish to express myself with much less decision, as I have not seen the effects of taking up any of those vessels into which the coloured infusion did not enter. The internal organization of the leaf, and of the wood, of those trees which have a central medulla, seems to admit but of little variation, and (as far as I have had opportunities to examine) of no essential difference; whilst that of different fruits is extremely various. The external vascular parts of the apple and pear, abstracted from those which seem to carry nourishment to the seeds, appear to me to resemble, in some respects, those of the leaf; and, relative to the offspring, I suspect that they perform a somewhat similar office.”

*16. Additional Observations tending to investigate the Symptoms of the variable Emission of the Light and Heat of the Sun; with Trials to set aside darkening Glasses, by transmitting the solar Rays through Liquids; and a few Remarks to remove Objections that might be made against some of the Arguments contained in the former Paper. By William Herschel, L. L. D. F. R. S.*



17. *On an improved reflecting Circle.* By Joseph de Mendoza Rios, Esq. F.R.S.

The above papers evidently do not admit of compression.

18. *Observations and Experiments upon Dr. James's Powder; with a Method of preparing, in the humid Way, a similar Substance.* By Richard Chenevix, Esq. F.R.S. M.R.I.A.

After the observations and experiments made by Dr. Pearson, to investigate the nature of Dr. James's powder, and presented by him to this Society, very little remained to be effected or desired, towards a further knowledge of the subject. But those very experiments served to suggest, that the mode of preparation was far from being the best that the present improved state of chymical knowledge might afford; and that, in all probability, a less defective composition might result from a process more conformable to some improvements, which of late have been advantageously applied to pharmaceutic chymistry.

“Dr. Pearson has proved,” says Mr. Chenevix, “(as by my own experiments I have found,) that in Dr. James's powder about 28 per cent. resisted the action of every acid. In examining some of the *pulvis antimonialis* of the London Pharmacopœia, I found the average quantity of insoluble matter to be about 44 per cent. This proportion, however, was liable to considerable variation.

“The powder here treated of is denominated, by Dr. Pearson, a triple salt, or a real ternary combination of a double basis, (lime and antimony, with phosphoric acid.) What I have mentioned, with regard to the quantity of acid contained in bone or hartshorn, as being too small to saturate a new portion of these bases, may throw some doubts upon the possibility of any such combination in the present case. But I have made some more direct experiments, which tend to prove, that no such combination does exist.

“I took some white oxyd of antimony, (formerly called Algaroth powder,) precipitated by water from muriat of antimony, and heated it for a long time with phosphoric acid. I decanted the liquor, and washed the powder that remained. No antimony could be found in the liquor; nor could any traces of phosphoric acid be detected in the residuary oxyd of antimony. I then took a solution of muriat of antimony, and divided it into two equal parts: into one, I poured distilled water; and, into the other, a solution of phosphat of soda. In each liquor, a copious precipitate was formed; which precipitates, after being well washed, were dried. The weight



of both was the same; whereas, it is evident that, had any phosphoric acid been combined with the oxyd, there would have been an augmentation of weight, in that which was precipitated by the solution of phosphat of soda. This precipitate likewise, upon examination, gave no traces of phosphoric acid. From these experiments it appears, that there exists no combination, which can be denominated a phosphat of antimony.

“ To attempt an explanation of the real nature of the powder here spoken of, I had recourse to some experiments of Mons. Berthollet. By detonating sulphuret of antimony and nitrate of potash, in a crucible, he obtained a mass, which he reduced to powder, and washed. The liquor gave, upon evaporation, a crystallized salt, which M. Berthollet terms an *antimoniate of potash*. I never could succeed in any attempt to form a similar combination between the above white oxyd of antimony and potash, owing, I believe, to the small quantity of oxygen contained therein, compared with that which is combined with the oxyd obtained by detonation. I cannot therefore say, that the powder in question is, in any degree, what M. Berthollet would call an *antimoniate of lime*.

“ But, be the state, whether of mixture or of combination, what it may, my purpose is to endeavour to produce a substance, which, from its more certain mode of preparation, may be more equal and constant in its effects.

“ Dissolve, together or separately, in the least possible portion of muriatic acid, equal parts of the forementioned white oxyd of antimony and of phosphat of lime. Pour this solution gradually into distilled water, previously alkalized by a sufficient quantity of ammonia. A white and abundant precipitate will take place, which, well washed and dried, is the substitute I propose for Dr. James's powder.

“ The theory of this precipitation is so clear and simple, that it does not require any comment. It may be useful, however, to those who wish to make this preparation, to remark, that it is absolutely necessary that the solution of phosphat of lime and of oxyd of antimony, in muriatic acid, should, after being well mixed, be poured *into the alkaline liquor*, in order to obtain a precipitate homogeneous throughout the operation. For, should the alkaline liquor be poured *into the acid solution*, the water of the former would act upon the entire mass of oxyd of antimony, while the alkali would precipitate the phosphat of lime only as it saturated the acid which held that salt in solution; thus, the precipitate would contain more antimony in  
the



the beginning; and, towards the end, the phosphat of lime would be predominant. For the same reason too, a pure alkali is preferable to its carbonate; for the carbonic acid disengaged, would retain in solution a portion of phosphat of lime.

“Whether this composition be a chymical combination or a mixture, I will not take upon me to determine; but, for the reasons above mentioned, in speaking of Dr. James’s powder, I believe it to be merely a very intimate mixture. At all events, it must be more homogeneous than any that can be prepared in the dry way. It is entirely soluble in every acid that can dissolve either phosphat of lime or oxyd of antimony separately; and, to have it constantly and uniformly the same, no further address in preparing it is required, than to avoid the errors I have mentioned.

“As, after some medical trials of the powder, it was suggested to me, that it might be advantageous to render it somewhat stronger, I prepared another portion, by taking two parts of oxyd of antimony and but one of phosphat of lime, and precipitating as above described. The medicinal power was then considerably increased.

“Dr. James’s powder is a medicine which has been so long in use, and is so deservedly ranked among the most valuable we possess, that every attempt to render the process for preparing it more simple and more certain, must be allowed to be of some importance. But, whatever reason there was to think, by arguing upon its chymical properties, that I had really succeeded in improving its medicinal virtues, it still remained to be proved, by actual experiment, that the hoped-for success was not merely conjectural. To ascertain this, I gave some of my powder to Dr. Crichton, Dr. Babington, and Mr. Abernethy; gentlemen whose extensive practice and acknowledged skill sufficiently enabled them to judge of its medical properties. They all concur in opinion, that, in its general effects, it agrees with Dr. James’s powder and the *pulvis antimonialis*; but, that it is more mild, and consequently may be given in larger quantities, seldom producing nausea or vomiting, in doses of less than eight or ten grains.”

19. *Case of a young Gentleman, who recovered his Sight when seven Years of Age, after having been deprived of it by Cataracts before he was a Year old; with Remarks.* By Mr. James Ware, Surgeon. Communicated by Maxwell Garthshore, M.D. F.R.S.

“Master W. the son of a respectable clergyman at Castle-cary, in Somersetshire, was born in the year 1793; and, for many



many months, appeared to be a healthy perfect child; his eyes, in particular, were large and rather prominent. When about six months old, he began to cut his teeth; which was attended with great pain, and frequently with violent convulsive fits. About the end of his first year, a number of persons passing in procession near his father's house, accompanied with music and flags, the child was taken to see them; but, instead of looking at the procession, it was observed that, though he was evidently much pleased with the music, his eyes were never directed to the place from whence the sound came. His mother, alarmed by this discovery, was naturally led to try whether he could see silver spoons, and other glaring objects, which she held before him at different distances; and she was soon convinced that he was unable to perceive any of them. A surgeon in the country was consulted, who, on examining the child's eyes, discovered an opacity in the pupils, which was so considerable, that he did not hesitate to pronounce there was a complete cataract in each. A description of the child's situation was then sent to me, with a request that I would point out those steps which its parents should pursue. The case was so evident, that I could not hesitate in saying, that the removal of the opaque crystalline humour, from the place it occupied behind the pupil, was the only method by which the child could obtain his sight; and, attached as I was, at that time, in all cases, to the operation of extracting the cataract, in preference to that of depressing it, I added, that I did not think he would be fit for the operation until he was at least thirteen or fourteen years old. This advice being approved, all thoughts of assisting his sight were, for the present, relinquished. He soon discovered a great fondness for music; his memory was very retentive of the little stories that were read or recited to him; and, in every way, it became evident that he had a mind capable of receiving information. As soon as he could speak, it was also observed, that, when an object was held close to his eyes, he was able to distinguish its colour, if strongly marked; but, on no occasion, did he ever notice its outline or figure. In November 1800, his parents took him to Bristol; whither they went for the purpose of seeing the works carried on in the school for the indigent blind in that city, and in order that they might ascertain whether their son, who was then arrived to his seventh year, could be taught any thing that would be useful or amusing. Here he very quickly learnt the art of making laces. But his parents, having brought him so far from home, thought it advisable to extend



their plan, and make a visit to the metropolis, for the sake of giving me an opportunity of inspecting his eyes, and of hearing whether my opinion continued the same as that which I had written to them six years before. About a month previous to the time of their arrival, a Portuguese boy, fourteen years old, had been put under my care, who was in a similar situation; and, in this case, notwithstanding all the efforts I could use, I found it impossible to fix the eye, in order to extract the cataract, without employing a degree of force which might have been highly injurious. I therefore relinquished my intention of performing the operation in that way, and determined to make use of the couching needle; being prepared, either to depress the cataract with this instrument, if it was sufficiently solid for the purpose, or, if it was soft or fluid, (which I rather expected,) to puncture its capsule largely, so as to bring the opake crystalline into free contact with the aqueous and vitreous humours. In order to fix the eye for this operation, I was not afraid to make use of a speculum oculi; since a pressure, which would have been highly dangerous in extracting the cataract, might be applied on the present occasion with perfect safety. Conformably to my expectation, the cataract was of a soft consistence; in consequence of which, I was not able to depress it, and contented myself with making a large aperture through the capsule, by means of which the crystalline was brought into contact with the other humours, a considerable part of it coming forwards, and shewing itself directly under the cornea.

“ This being the immediate result of the operation, it could not be expected that any improvement should be made in the sight of the patient at that time. In a few days, however, the opake matter was wholly absorbed; the pupils became clear; and the lad recovered the sight of both his eyes. Encouraged by the success which followed this operation, I was induced to retract the opinion which I had formerly sent to Master W.’s father, (which opinion I had given under the impression that the cataract should be extracted,) and I now proposed, that an attempt should be made to afford relief to one eye, at least, without further loss of time; this attempt, in the way above mentioned, being practicable with as much safety at his present age as at any future period; and, if it proved successful, it would give the young gentleman the benefit of vision five or six years sooner than his friends had been encouraged to expect, by my former letter on this subject. They were naturally much pleased with this alteration in my advice;



advice; and the child himself appearing to possess a great degree of fortitude, I performed the operation on the left eye, on the 29th of December last, in the presence of Mr. Chamberlayne, F.A.S. Doctor Bradley, of Baliol College, Oxford, and Mr. Platt, surgeon, in London. It is not necessary, in this place, to enter into a description of the operation. It will be sufficient to say, that the child, during its performance, neither uttered an exclamation, nor made the smallest motion, either with his head or hands. The eye was immediately bound up, and no inquiries made on that day with regard to his sight."

From the 31st of December to the 4th of January following, the effects of the operation were attentively watched, and were found to be fully adequate to the most sanguine hopes of the operator and of the friends of the young patient. Master W. recovered his sight without suffering any other uneasiness than slight sickness for a day or two, and without complaining of pain either in his head or in his eye.

About a month after the above-mentioned operation on Master W.'s left eye, a similar operation was performed by Mr. Ware on the right eye of the same young gentleman. Although he behaved with great firmness on the first occasion, it was not without considerable difficulty that his head was kept steady on the second. The operation, however, did not seem to give him much pain, nor did any inflammation follow; but the opacity afterwards was not diminished, and he did not acquire any additional sight from the right eye. Mr. Ware conjectures, that the want of success, in this instance, was owing to an opacity in the capsule, which was incapable of being absorbed.

This interesting communication concludes with the following positions, viz.

"First, When children are born blind, in consequence of having cataracts in their eyes, they are never so totally deprived of sight as not to be able to distinguish colours; and, though they cannot see the figure of an object, nor even its colour, unless it be placed within a very short distance, they nevertheless can tell whether, when within this distance, it be brought nearer to, or carried farther from them.

"Secondly, In consequence of this power, whilst in a state of comparative blindness, children who have their cataracts removed, are enabled, immediately on the acquisition of sight, to form some judgment of the distance, and even of the out-



line, of those strongly defined objects with the colour of which they were previously acquainted.

“ Thirdly, When children have been born with cataracts, the crystalline humour has generally, if not always, been found either in a soft, or fluid state. If, therefore, it be not accompanied with an opacity, either in the anterior or posterior portion of the capsule, and this capsule be largely punctured with the couching needle, introduced in the way in which this instrument is usually employed to depress the cataract, there is reason to expect that the opaque matter will, sooner or later, be absorbed, the pupil become clear, and the sight be restored.

“ Fourthly, If, in addition to the opacity of the crystalline humour, its capsule be also opaque, either in its anterior or posterior portion, or in both, (which circumstance cannot be ascertained before the operation,) and, in consequence of this, the operation above mentioned should not prove successful, it will not preclude the performance of extraction afterwards, if this be thought advisable.

“ Fifthly, The operation above mentioned being much more easy to perform than that of extraction, and it being possible to fix the eye with perfect safety during its performance, by means of a speculum oculi, it may be undertaken at a much earlier age than the latter operation; and a chance may of course be given to the patient, of receiving instruction, without that loss of time which has usually been thought unavoidable, when children are born with this disorder.”

20. *An Account of some galvanic Combinations, formed by the Arrangement of single metallic Plates and Fluids, analogous to the new galvanic Apparatus of Mr. Volta.* By Mr. Humphry Davy, Lecturer on Chemistry in the Royal Institution. Communicated by Benjamin Count of Rumford, V.P.R.S.

The experiments here related by Mr. Davy shew, that an accumulation of galvanic influence, exactly similar to that in the common apparatus of Mr. Volta, may be produced by the arrangement of single metallic plates, or arcs, with different strata of fluids. It does not appear necessary that oxydations only of metals should be going on to render the arrangements active, for other chemical changes are also found to be favourable.

In describing the different galvanic combinations formed by single metallic plates and fluids, the former are divided into three classes.

Class I. “ The first and most feeble class is composed, whenever



whenever single metallic plates, or arcs, are arranged in such a manner that two of their surfaces, or ends opposite to each other, are in contact with different fluids, one capable, and the other incapable, of oxydating the metal. In this case, if the series are numerous, and in regular alternation, galvanic influence will be accumulated, analogous in all its effects to the influence of the common pile.

“ Tin, zinc, and some other easily oxydable metals, act most powerfully in this class of combinations.

“ 2. The second class of galvanic combinations with single plates is formed, when plates, or arcs, composed of a metallic substance capable of acting upon sulphurated hydrogen, or upon sulphurets dissolved in water, are formed into series, with portions of a solution of sulphuret of potash, and water, in such a manner that one side of every plate, or arc, is in contact with water, whilst the opposite side is acted on by the solution of sulphuret. Under these circumstances, when the alternation is regular, and the number of series sufficiently great, galvanic power is evolved; and water, placed in the circuit with silver wires, is acted on; oxyd being deposited on the wire connected with the side of the plate undergoing chemical alteration, whilst hydrogen is evolved from the side in contact with water.

“ Silver, copper, and lead, are each capable of forming this combination. Plates made from either of those metals, may be arranged with cloths, (moistened, some in water, and others in solution of sulphuret of potash,) in the following order, metal, cloth moistened in sulphuret of potash, cloth moistened in water, and so on.

“ Eight series will produce sensible effects; and the wire from the top of the pile produces oxyd.

“ Copper is more active, in this class of batteries, than silver; and silver more active than lead.

“ 3. The third and most powerful class of galvanic batteries, constructed with fluids and single metals, is formed, when metallic substances oxydable in acids, and capable of acting on solutions of sulphurets, are connected, as plates, with oxydating fluids and solutions of sulphuret of potash, in such a manner that the opposite sides of every plate may be undergoing different chemical changes; the mode of alternation being regular.

“ In all the single metallic piles constructed with cloths, the action is very transient: the decomposition of the acids, and  
of



of the sulphurets, is generally completed in a few minutes; and, in consequence, the galvanic influence ceases to be evolved. The arrangement of all the different series may, however, be made in such a manner as to give considerable permanency to their effects. This apparatus is a box, covered with cement incapable of conducting electricity, and composed of three pieces of mahogany, each containing grooves capable of receiving the edges of the different plates proper for composing the series. One half of these plates must be composed of horn, or glass, and the other half of metallic substances; and the conductors of electricity, and the non-conductors, must be alternately cemented into the grooves, so as to form water-tight cells."

21. *A Continuation of the Experiments and Observations on the Light which is spontaneously emitted from various Bodies; with some Experiments and Observations on solar Light, when imbibed by Canton's Phosphorus.* By Nathaniel Hulme, M.D. F.R.S. and A.S.

Dr. Hulme's second paper on the subject of phosphorescence commences with an account of the effects of various aërial fluids on spontaneous light, from which the following facts are deducible:

1. Objects which abound with spontaneous light in a latent state, such as the herring, mackerel, and the like, do not emit it when deprived of life, except from such parts as have been some time in contact with the air.

2. The blast of a pair of bellows does not increase this species of light, as it does that which proceeds from combustion.

3. Oxygen gas does not act upon this kind of light, so as to render it much more vivid than it is in atmospherical air; which is quite contrary to what some authors have alleged.

4. Azotic gas, though incapable of supporting light from combustion, is so favourable to the spontaneous light which is emitted from fishes, as to preserve its existence and brilliancy for some time; *when applied upon a cork*; yet it prevents the *flesh* of the herring and the mackerel from becoming luminous, and also extinguishes the light proceeding from rotten wood.

5. Hydrogen gas, in general, prevents the emission of spontaneous light, and also extinguishes it when emitted; but, at the same time, it does not hinder its quick revival, when the subject of the experiment is again exposed to the action of atmospherical



mospherical air; although the light may have been a considerable time in an extinguished state.

6. Carbonic acid gas has also an extinguishing property, with respect to spontaneous light; but, in general, the light returns, if the object of experiment be taken out, and exposed to the open air.

7. Sulphurated hydrogen gas extinguishes spontaneous light much sooner than carbonic acid gas, and that, in general, the light returns much more slowly, when the subject is exposed to atmospheric air.

8. Nitrous gas totally prevents the emission of light, and quickly extinguishes that which has been emitted.

9. *In vacuo* the emission of light does not take place.

The second part of this curious memoir relates to the phenomena of solar light, when imbibed by Canton's phosphorus. It appears,

1. That the imbibed light is rendered more vivid by a *moderate* degree of heat; and,

2. That it is extinguished by a *great* degree of heat.

3. That the imbibed light, after being in a latent state, is excited and rendered luminous by the agency of heat.

Hence we perceive that solar light, when imbibed by Canton's phosphorus, is subject to the same laws, with respect to heat and cold, as the spontaneous light of fishes, rotten wood, and glow-worms.

22. *Experiments on the chemical Production and Agency of Electricity.* By William Hyde Wollaston, M.D. F.R.S.

These experiments tend to remove a doubt entertained by many persons, whether the power of Volta's pile depends on the chemical action of the interposed fluid on the metal, or whether this effect is occasioned by electricity, set in motion by the contact of metals of different conducting powers; they shew, that the oxydation of the metal is the primary cause of the electric phenomena. As electricity and galvanism are found to be excitable by similar means, and as they produce similar effects, it is reasonable to infer that they are both essentially the same.

23. *Farther Observations on the Effects which take place from the Destruction of the Membrana Tympani of the Ear; with an Account of an Operation for the Removal of a particular Species of Deafness.* By Mr. Astley Cooper. Communicated by Everard Home, Esq. F.R.S.

Mr. Astley Cooper had before pointed out the effects which are produced upon the organ of hearing by a partial loss, or  
entire



entire destruction, of the *membrana tympani*. He had shewn, that an aperture in this membrane does not diminish the power of the ear, and that even a complete destruction of the former is not followed by a total deprivation of the sense of hearing; a supposition which medical men have pretty generally adopted, and common opinion has sanctioned. In the present paper he adduces a variety of facts to prove that his former assertions are correct, and informs us that he has examined more than twenty cases of defect in the *membrana tympani* since the publication of his first paper.

“The effect,” says Mr. Cooper, “produced upon the sense of hearing by this defective state of the *membrana tympani*, varies according to circumstances. If there be a small aperture only, leaving the malleus with its natural attachment, no difference in the power of the organ is perceptible; the membrane vibrates, and communicates its vibrations, as before. If the whole of the membrane be destroyed, and three out of four of the small bones of the tympanum be removed, an almost total deafness ensues; but the ear, after a time, begins to recover its powers, and, in the end, regains them, with that degree of imperfection only, which, in my former paper, I have described in the case of Mr. P——. The following fact appears to confirm the truth of this statement. Mr. Radford, surgeon, of Newington Butts, informs me, that in the year 1779, he attended a woman who had an ulcer in the throat, by which a portion of the palate was destroyed, and the tonsils and Eustachian tube so much injured, that in the attempt to swallow, a part of the liquid ran through her ears; yet, notwithstanding these ravages, she neither complained of any defect in her hearing, nor had the slightest appearance of deafness. In cases, however, where the discharge of matter which produced the destruction of the membrane continues, should a fungus arise on the periosteum of the tympanum, or exfoliation of the bones forming this cavity occur, and more especially should the stapes separate, very considerable deafness will be the consequence.

“When the membrane of one ear only is destroyed, a greater degree of deafness takes place in that ear, than would happen in either, were the membrane destroyed in both. This, as I stated in my former paper, probably arises from the disuse into which the imperfect ear falls, from its being less quick in its powers than the other; a conjecture which seems to be verified by the following fact.

“Mr.



“ Mr. G——, a merchant in the city, lost, at an early period of life, so great a portion of the membrana tympani of the left ear, that no more of it remained than appears in Fig. 3; and, as he heard somewhat better with his right ear than with his left, he was little in the habit of employing the latter, and considered himself at length as almost totally deaf in it. Becoming, however, in the month of December last, deaf in the right ear, and being obliged, in consequence, to employ the other, he found that the left ear was by no means deprived of its powers: although he could force air from his mouth through that ear, and, if he suddenly thrust his finger into the meatus, the air was heard to rush through his nostrils.”

From the foregoing circumstances, Mr. Cooper was induced to try an operation, which has proved successful in several instances for remedying an obstruction in the Eustachian tube; this operation consists in puncturing the membrana tympani. It is well known, that there are many causes by which a closure of the Eustachian tube may be occasioned, as ulcers, stricture, extravasation of blood, &c. in that passage; but in whatever way the disease may be produced, the following is the mode of operation proper to be practised, viz. a canula, of the size of a common probe, and in which a trocar is concealed, is to be introduced into the ear; it is to rest upon the membrana tympani, and the trocar is then to be thrust through the membrane.

“ The trocar should be so adjusted as not to pass more than an eighth of an inch beyond the canula, to prevent its reaching the opposite side of the cavity of the tympanum. Should it however touch the periosteum of the tympanum, it can be productive of no serious harm. The aperture should be made in the anterior and inferior part of the membrane, under the manubrium of the malleus, which must not be injured in the operation; and it is therefore necessary that the operator be acquainted with its exact situation.

“ Though the membrana tympani be vascular, the vessels are so small that they bleed but little; and therefore, if much blood is discharged, the operation cannot have been properly performed.

“ In an ear otherwise healthy, the operation is attended with so slight a degree of pain, that when it has been performed in one ear, the patient expresses no unwillingness to submitting to it in the other. The sensation which it occasions is momentary; and no subsequent inconvenience of any kind arises.

“ As this operation,” (continues the author,) “ will not



afford relief in any cases of deafness, except such as arise from a closed Eustachian tube, I am anxious that it should be performed in those only which are clearly of that description. The criteria by which I judge whether the tube is closed or open are the following:

“ First, If the person in whom it is suspected to be closed, should feel, in blowing the nose violently, a swelling in the ear, from the membrane being at that time forced outward, the tube is open ; for, when closed, no such sensation is produced.

“ Secondly, The Eustachian tube may be closed, yet the beating of a watch may be heard, if it be placed between the teeth, or pressed against the side of the head ; and, if it cannot be heard when it rests upon the teeth, this operation cannot relieve, as the power of the auditory nerves must have been destroyed.

“ Thirdly, It is right to inquire if the deafness was immediately preceded by any complaint in the throat.

“ Lastly, In a closed Eustachian tube there is no noise in the head, like that which is hereafter described as accompanying nervous deafness.”

Mr. Cooper's communications to this learned body have been rewarded with the Copleian medal, and it cannot be doubted that they are of the utmost importance to the medical profession and to the public in general, by whom a discovery so valuable will not fail to be estimated proportionately to its merits.

ART. IV. *Cases of Phthisis Pulmonalis successfully treated upon the tonic Plan ; with introductory Observations.* By CHARLES PEARS, F.M.S. Honorary Member of the Physical Society, Guy's Hospital ; Member of the London Anatomical Society, &c. Octavo. 104 pages. MURRAY and HIGHLEY, London. 1801. Price 2s. 6d.

OUR readers will no doubt have observed, that though some writers on phthisis pulmonalis have recommended the tonic plan from their experience, others from their experience likewise have condemned it. How then shall we decide when doctors thus disagree ? It unfortunately happens in medicine, that the same name has been given to similar associations of symptoms, though the state of the body which produced these symptoms is, in many instances, very opposite.

Though



Though experience and observation ought to be the foundation of every theory, yet nothing is more dangerous than to form a judgment at first sight, without correcting our observations by the aid of reason. From a want of proper discrimination, till of late years, all diseases attended by a frequent pulse were regarded as highly inflammatory: hence typhus was treated as an inflammatory fever, and the debilitating plan of cure resorted to.

The same want of discrimination has undoubtedly given rise to the difference of opinion we have mentioned in phthisis pulmonalis; for the florid consumption, which begins with, and is accompanied by, an inflammatory diathesis, produces nearly the same train of symptoms as that which has its foundation in previous debility. The latter species, we know from repeated experience, may be cured by tonics; while the symptoms of the former are, in general, aggravated by them.

Though Mr. Pears styles his practice "a new mode of treatment," he surely cannot be ignorant, that the same plan has been pursued by several eminent practitioners, among whom we may mention Dr. Griffiths, Dr. Brown, and his pupil Dr. May, who has published a work expressly with a view to recommend the tonic plan. But though we have no doubt that, in several instances, it may be successful, yet we are convinced, from experience, that in other cases it is highly injurious. Mr. Pears does not seem to us to have been sufficiently minute in the relation of his cases; indeed it is scarcely possible for us to judge from his narrations, whether the habits of the patients were scrofulous, or whether the disease, at its commencement, was of the florid kind, which generally attends the inflammation of tubercles. Indeed, most of them seem to have had their origin in debility, and were, at the time they were treated by him, diseases of weakness. His own case was, we think, decidedly of this kind; but our readers shall judge for themselves.

"1796. C. P.—In consequence of a fever which left much remaining debility, had the symptoms of phthisis induced, during a state of convalescency, viz. cough, which was most troublesome during the day, and towards the evening, with a peculiar aggravation at the time of first awaking in the morning. Fever, increasing about five or six o'clock in the afternoon; restless nights; with perspiration about two, three, or four o'clock in the morning; purulent expectoration accompanying the cough, and raised with some difficulty; much emaciation, and such excessive debility, as to prevent the abi-



lity of walking, or even standing, without assistance for support. Pain in the chest. The pulse quick and weak, with a peculiar tremulous motion under the finger.

“ To remove these symptoms the following plan was pursued:—The diet was of the most nutritive kind, consisting chiefly of wine and animal food, and no liquid drank weaker than wine and water. The patient arose as soon as he found the perspirations had commenced. Two glasses of wine were drank after dinner, and if the heat increased after this, a third was taken to remove it, which succeeded. Two other glasses were to be taken in the course of the day. The following medicine was given :

“ R. Spt. ætheris nitros. ʒj, Inf. gent. ten. ʒjß, Syr. papav. alb. ʒij. M. Ft. haustus. Cap. j ter vel quat. indies.

“ R. Tinct. opii g<sup>tt</sup> xij, Aq. ʒj. Cap. quando tussi urgenti : et g<sup>tt</sup> xxiv vel xxx hor. som.

“ Rep. Tinct. opii in nocte, ut occasio requir.

“ The day after this plan was began, the cough and perspiration were less violent.

“ In one week, they were nearly removed, the patient experienced an increase of strength and appetite ; and being now able to take the advantage of air, which he was unable to do before, found a daily decrease of his symptoms, and as regular and progressional a return to health. These medicines were then made stronger of the Inf. gent. and continued for another week ; at the end of which they became unnecessary.”

Such cases are by no means uncommon, and may, in general, be easily cured by a judicious use of tonic remedies ; but, in the genuine scrofulous consumption, though we believe this plan to be less injurious than the opposite mode of treatment, we doubt much if one patient was ever radically cured by means of stimulants alone.

We should not do justice to Mr. P. did we not insert the result of his treatment as estimated by himself in the fifth page of his Introductory Observations.

“ Cured — — — 21

“ Those, who discontinuing their medicines, under the beneficial effects produced, and who, therefore, may not improperly be said to have *refused a cure* 18

“ Died, including Mrs. T. from the effects of cold, during her convalescency 10

—  
49

“ If



“ If then it appears, that out of forty-nine cases of a disease, generally deemed incurable, even in their early stages, which was the reverse of the present ones, *twenty-one* were recovered; that *eighteen* refused their cure, by discontinuing their medicines, out of which number moderation may fairly be allowed *eight* for recovery; there only remain *ten* who died; out of these *five* were excited by the effects of liquor, and apparently accompanied with affections of the liver; *three* were irregularly marked, *one* arose from a local injury, and *one* from the effects of cold, during a state of convalescence, where the patient, as the recital shews, had no danger to encounter from disease; and which case, therefore, may be added to the recoveries. So that there does not remain *one* that may be fairly said to have been lost; and although, from the variety of exciting and complicated causes, great loss is ever to be expected in disease, yet in one where a *single* recovery is regarded as miraculous, the result here, without panegyric, may surely be allowed manifest preference.

“ Many incipient cases cured have been thought undeserving of notice here.”

Though the public are undoubtedly obliged to Mr. P. for bringing forward the result of his practice, yet great attention and discrimination will be requisite to determine those cases in which the tonic plan ought to be used.

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ART. V. *Hygëia, a Series of Essays on Health; on a Plan entirely popular.* By THOMAS BEDDOES, M. D. N<sup>o</sup> IV. 98 pages. March 1802. PHILLIPS, London. Price 2s.

THIS Essay is principally taken up with considerations on the education of boys; and though, like the others, it contains much heterogeneous matter which might have been omitted, without any detriment to the work, yet we meet with a number of important and valuable observations. The author traces the different regulations of our large schools which originated with their founders, the monks, and shews that, in these seminaries, children are still subject to monastic rules, very little mitigated. We perfectly agree with the author in thinking that the studies inculcated at those schools, are by no means calculated to excite that energy, and give that interest to the mind which will prompt the pupil to pursue



pursue them with pleasure. Several of the best years of a boy's life are consumed in the acquisition of dead languages; and the supreme excellence is made to consist in writing verses in one of those languages: no wonder then that the genius being thus compressed should break out into destructive and injurious irregularities. The most lively boys learn their tasks with pain, and as soon as they have done, they endeavour to forget their situation by employing themselves in schemes for getting rid of their time and their health. "They drink, row, and ride. Little boys guzzle at their meals so strong and stupifying a liquor as porter; the bigger frequently superadd wine, and not in very sparing quantities. The large sums they procure from home, and the more extensive credit they find at inns and shops, enable them to follow their seniors with no very unequal steps. There is nothing to check their career; except the failure of these resources. Two circumstances, which operate elsewhere as a considerable restraint upon vicious propensities, are wanting here; namely, difference of age, sex, and occupation; and more or less acquaintance with consequences.—Where such an order of things prevails, it is idle to stop to settle the account between cause and effect. Every reader can do it for himself. It is obvious, that life must gush out in full streams, as from Seneca in the bath. And to judge by the state of the person, which should always be taken as the grand criterion between mortals, the richest heirs, in consequence of debauchery begun at school, often turn out the poorest devils in the country."

The debauchery that begins at school increases at college, and those who before escaped now enter into it. "I speak from observation," says the author, "in the university of Oxford, at different periods, during eighteen years; and in so simple a fact, I have no apprehension of being contradicted. Drunkenness was said to be on the decline; and, I believe, most truly. Each college had not, probably, above one drunken party. But it was an unproved practice, among a vast proportion even of the youngest members, to drink some glasses of wine daily. The poorer students contented themselves with ale. All competent observers are agreed, as to the pernicious effects of fermented liquors. And this operation is generally more pernicious, as he who drinks them is younger. By persons below five-and-twenty, they should never be taken but as medicines; and it would be better not to take them but as the cordials of old age, that is, always medicinally. It is impossible that three or four glasses of port wine—a quantity,  
which



which usage miscalculates as small—should be regularly swallowed by the under-graduates of our universities without curtailing life, or making it miserable; and indeed, without doing both in a tremendous number of instances. The fact is evidenced in the most ample manner by the spleen, the gout, the palsy, the lunacy, the premature decrepitude, so prevalent among the gentry, the clergy, and others, who have been unfortunately deluded by example and by ignorance of the laws of their own nature into this habit, at an early period.”

The advantages which would arise from a judicious mixture of the subjects of study appear to us very great; if, for instance, two hours in each day were allotted for learning the dead languages, and two or three hours more employed alternately on mathematics, natural history, and natural philosophy, we will venture to assert, from experience, that a much greater progress would be made, even in the acquisition of the dead languages; children would no longer withdraw themselves and their thoughts, as far as possible, from their irksome labours, and they would leave school with a knowledge of things as well as of words. What can be more lamentable than the situation of a country gentleman educated at one of our large schools? For a number of years he is forced to pore over his dictionary and lexicon, and the only thing he learns with pleasure is the dissipation into which he will find plenty of tutors to initiate him. When he goes home, he endeavours to forget, as quickly as possible, his knowledge of the dead languages, the remembrance of which is always connected with unpleasant ideas, and he spends his listless life in sports and vulgar festivity: whereas, if he had obtained a knowledge of natural history, natural philosophy, and chemistry, the objects around him would have afforded a constant fund of rational amusement, and his hours would never seem tiresome.

The author properly observes, that too long application in a state of confinement defeats its own purpose. More would be learned, if the learner were to have his book before him just as long as his faculties are fresh, and no longer. But the principal loss is sustained by associating painful feelings with the means of instruction.

“The rule of health for *sedentary* instruction,” the author observes, “is very simple. From two and a half to four hours in a day is the longest time, that children from six and a half to nine years of age, should be required or rather induced to sit. But through this period, as well as previously to it, health



health and proficiency equally require that the principal pursuits should be of an active nature. There is an easy test, by which we may judge, whether they are at once good for the constitution, and proper in all other points of view. This is the case when they are followed with alacrity; when the curiosity of the pupil expatiates on all sides, and when he occupies himself, during his free hours, in combining the ideas, which he has gained during his hours of study. If, on the contrary, he is vexed and depressed by his lessons, he is most assuredly laying in the seeds of misery and disease. They may or they may not germinate and produce their proper fruit, according to future contingencies. But the habit of feeling, induced in this manner, during childhood, is often most severely felt during the later seasons of life. Causes which without such a preparation would have produced no bad effect, now operate with irresistible violence. The inevitable storms of life shake the system to its foundation, and threaten its demolition. Adversities, which should but furnish the occasion for a dignifying trial of courage, at once bear down all opposition. To execute one of the measures prescribed by common prudence, and even to perform one of the offices required in the usual intercourse of society, is felt as an Herculean labour. In some instances, the very light of day is shunned as loathsome; and at the sight of a strange countenance, a panic terror throws the whole host of animal spirits into confusion.

“That incapability, and those horrors, which seem so incomprehensible to persons who have not felt them, and for which there is no help in wealth, learning, or wisdom, shew themselves in an endless diversity of degrees. It would be unjust to ascribe them to any one origin. But there is no source, from which they more frequently spring, than the perverse discipline of seminaries, derived, in a right line, from the establishments of the monks, and bearing in every feature a token of their descent. They would not perhaps occur once in an hundred instances, where young persons were not foully dealt with, and where the faculties should have full, proportionate play during the first ten years of life. This implies an almost uninterrupted and an immediate intercourse with the powers and objects of Nature, and such occasional communications from seniors, as shall render that intercourse safe, wholesome, and instructive. Under favour of these advantages children would learn to brave little dangers, to despise petty mishaps, and to profit, for their next plans, from the failure  
of



of the last. The arteries would acquire a vigour of pulsation, the muscles an elasticity, and the nerves a firmness of tone, which scarce any single calamity, or series of crosses, could enfeeble or unhinge; and which are the most precious ingredients towards courage, resolution, efficiency, and health.

“When little children are immured six, seven, eight, or nine hours a day in a comfortless place of confinement, and when the business of this place continually damps the heart, and produces incessant aversion and anxiety, it does not require any præternatural interpreters of the book of fate, like the weird sisters of Macbeth, to understand what many among these children shall be hereafter.”

The author next proceeds to examine the effects of a vice common in large schools, and which are described at large by Tissot and other writers, and he thinks that the only probable means of preventing it would be to explain its consequences in a rational and proper manner; for he observes, that many have practised it to the utter ruin of their constitutions without having had the smallest suspicion of its baneful effects.

The first object is undoubtedly to secure a healthy constitution to the child; for without this, whatever progress he may make in his studies, he will be little qualified to enjoy that happiness which is our being's end and aim; and however humane a master may be, or however learned, or however laborious, if he be ignorant of physiology, and the grand principles on which depend the preservation of health, he is totally unfit for the task; and we cannot help cordially agreeing with the author, that the master of a school ought to be possessed of medical information derived from regular study.

We shall conclude our analysis of this number with the following sketch of the principles, according to which, the author thinks, a *healthy school* can alone be established, at the same time expressing our sincere wishes that some such establishments may originate from the hints here given.

“Many things under the same head in the former essay apply to boys. These I shall not repeat.—But it is more reasonable to require of schoolmasters than of governesses, that they should be conversant in the doctrines of animal nature, since men more easily find access to instruction. This instruction should be drawn from nature, not altogether from books. Reading is not sufficient to qualify a person for taking care of others' health. After perusal of the best works, he may have little of a practical eye for detecting mischief to the constitution in its rise; and he will be in danger of doing or suffering



suffering what may, immediately or after some time, destroy his pupils. To require so much can be nothing unreasonable, since it is only taking schoolmasters at their word.—They profess the care of health. But is it not one and the same thing to take care of health and prevent diseases? How then can he, who has cultivated no acquaintance with the nature, origin, and early phenomena of diseases, presume to offer himself for a charge, to which, even by his own avowal, if he has any meaning, an acquaintance with these things is necessary? It is in vain to profess, and even to feel, the most perfect readiness to apply to the medical practitioner, when necessary. To judge when this is necessary, often demands proficiency in the knowledge of the appearances, indicating ill health, nearly equal to that of the practitioner himself. And to adjust diet, exercise, and study, to the exigencies of different constitutions, requires this same kind of knowledge, applied in a way, too little customary even with medical practitioners. For, surely, it is not enough that a boy continue to exist through the usual period of education. The seeds of future diseases must be destroyed; and since it is extremely easy, it would be but doing him justice to start him into life with a stock of vigour, which shall keep him in good plight thrice as long as is usually the case at present with the individuals belonging to the superior classes.

“ The studies, therefore, of the preceptor ought in part to be the same with those of the physician. Inattention to this principle has been attended, but in an infinitely greater degree, with the consequences ascribed by Homer to the anger of Achilles. It has dispatched to Pluto, before their time, and to the inconsolable grief of their parents, innumerable souls of those, that *might* have turned out heroes or philosophers, and that certainly *would* have been happy human beings and useful members of society. Sometimes blows directed in the ignorance of anger, towards a vital part, have done the business. It is more often silently effected by ill-adapted discipline, by parsimony in respect to food and fuel, and by preposterous schemes for conferring hardiness, or permitted for want of penetration to perceive the powers of mischief during the earlier stages of their operation.

“ Among the ablest students of medicine there will always be a proportion, to whom the exercise of their laborious profession is not suited, or who fail in the competition with their inferiors, because they are above playing certain tricks, that take with the directors of public opinion. The warm discussion,



sion, which the various topics of education have undergone since the leading, and, with all its faults, the still unrivalled work of Rousseau, has induced a sufficiently general wish for improved schools. Now with the inestimable advantage, which persons, conversant in the science of health and diseases, must have above all others, there can be no doubt of sufficient support, if such persons, not neglecting inferior endowments, were to engage in the task of education. It is common to hear incurable valetudinarians exclaim, *Ah! if I had known the consequences in time, I never should have brought all this upon myself.* There is scarce any one, who if he accurately reflects upon the occurrences of his life, but will feel himself entitled to hold some such language. He will not have occasion to reflect long, till he discovers that his sweetest consolation will be in conferring upon his successors the advantages which the thoughtlessness of his predecessors has denied him. And the resolution to do so will diminish his regret on finding himself cut off from that ease or those enjoyments, towards which he has so often cast his looks with a sigh of despair.

“ That schools should cease to be fatal to all the valuable qualities of mind and body, parents must, on such considerations, become liberal, or, more properly speaking, they should be economical. For money spent upon useful and engaging acquisitions in youth, if we reckon only upon saving in money, will be found to bring the most ample interest. The poet, says Horace, does not easily become a miser. In like manner, it may be asserted, that he who, when a boy, has been initiated in those theoretical and practical sciences, which the labour of ages has accumulated, will seldom prove a spendthrift, a gambler, or a voluptuary. On the danger of parsimony during the early part of education, the most general fact in the modern history of our universities, and of most other places inhabited by the equals in age to our university students, must decide the opinion of every prudent father of a family. The fact I allude to is this: young men of fortune, and those also of no expectations at all, commonly dissipate more money in a very few of their last school years and after quitting school, than would suffice for the education of two or three boys upon the most expensive plan, which any reasonable regard to instruction or health could suggest. There is, perhaps, scarce one individual, whose education upon the whole of the present plan is not more costly than it would be upon the whole of the plan proposed. The mind not being agreeably engaged by the ideas it has acquired, and the vacancy of feeling being intolerable,



intolerable, nothing remains to produce the desired excitement, but some species of debauchery. And the temptation is always greatest, and yielding to the temptation always most baneful, to those, who have received from nature the happiest endowments. In such circumstances, no regard to the purse or to the constitution would probably be an effectual restraint. But for want of the least degree of precise information concerning what is due to the constitution or even to the purse, the youthful debauchee is destitute of the advantage even of this poor chance.

“ Such an inducement may be supposed capable of determining every considerate father of a family to co-operate with all his means towards preserving the patrimony and person of his offspring. That these means may be properly applied, the preceptor, in addition to the qualifications already mentioned, should be one of those rare persons, to whom, after the prime of manhood, brisk exercise is neither impossible or irksome. He should have force of mind to break that habit of sedentary study, which is by far the greatest evil that the art of printing has produced among mankind. His own knowledge of the properties of human nature would furnish him with motives, powerful enough to lead him to forego and to banish from his table the use of every sort of fermented liquor, from small-beer inclusive. After a month's perseverance, no one, as the author can attest both from experience and observation, would feel this as a sacrifice, unless his constitution had been before irretrievably hurt by a vicious regimen. For the same reason, stimulants like tea and coffee, which grown people might use without disadvantage, in a certain quantity and of a given strength, would be abandoned. By help of the master's example, but not in opposition to it, what he would be able to communicate from his stores of physiological and pathological knowledge, would set his pupils above danger of being seduced by the usages of the world. On the contrary, as bad examples are always salutary to those who consider them as bad, the feelings with which such boys would look on the unfortunate slaves to the dreadful habit of swallowing poisonous drinks, would strengthen them in their better resolution. And effects, which the master might place before the eyes of his scholars, by mixing ale or spirits for a time among the food of domestic animals, would confirm the impression of his doctrines. Such experiments, while they furnished an interesting employment, would secure the health against one of the greatest dangers to which



which it is exposed in the intercourse of modern society. Mathematical, philosophical, chemical, botanical, and *technological* instruction, judiciously intermixed, but at the same time carried on in conformity with a system, clearly made out in the mind of the preceptor, would keep the physical and moral faculties of the children in perpetual and proportional progress. The thoughts would never stagnate, the heart never prey upon itself, and intemperance of every kind would be abhorred according to the nature of its consequences.

“ The plays, usual among children, should make a very small proportion of the general scheme of exercise, or be altogether disused. It is not that I would wish them prohibited; but active occupations, connected with future life, should be adroitly substituted in their stead. It is the misfortune of school sports, that they must be dropped as soon as boys quit school.—The exception of cricket is hardly worth naming; and the morning benefit of this game seems more than counterbalanced by the carousal, which commonly follows it in the evening.—But all the employments, to which the practice of physical science leads, could be continued in the more advanced stages of life. Thus there would be no intermission or languor in the pulse of thought or motion. Nothing like that distress, which the outer frame feels on the unexpected stopping of a carriage as it is bowling along a smooth road, would be known to the intellect. The leisure, which men of letters and of business devote to dangerous or doubtful recreations, might be employed, with much increase of individual and social happiness, in the continuation of these pursuits. The expense attending them would be less—it certainly could not be greater—than that of the surfeiting entertainments,—perhaps not greater than that of the insipid parties—to which, for want of having been trained to something more agreeable and wholesome, we are obliged to have recourse.

“ The regulation of food will have nothing difficult, where the free, but not excessive, employment of the limbs secures appetite and digestion. The diet should be nourishing, but in no article stimulating. Bread and milk, divers preparations of milk, and fruits, with broth or soup occasionally, will supply all the meals except dinner. Dinner should consist of a moderate portion of butcher's meat, with plenty of vegetables. It is only in the case of puny children, that an additional quantity of animal food, with beer, will be necessary. This is a medical consideration; and is best determined and proportioned by a medical man, having constant opportunities of observing the  
the



the boys that require a medicated regimen. Such things are hardly ever, in fact, adjusted by a practitioner, called in for the purpose. His presence is only desired when diseases are actually formed. Some evil might be obviated by submitting schools, once a month, to the examination of a physician, who has paid particular attention to the first symptoms of slow disorders, and to the tokens that indicate vices in the constitution. But still a constant observer of young people would have an infinite advantage over an occasional inspector ever so skilful.

“ It would be advisable to commence an establishment for healthy, for scientific and moral, in addition to classical education, with children, fresh and untainted from their own home. A single preceptor should not engage with above six boys ; and it would be better not to bring above six together as permanent inhabitants of one house. But the public has been so cajoled with the idea of the members of a large body, disciplining one another to greater expertness for the warfare of life, that, with the addition of two or three well-qualified assistants, twenty might be received. Such a number of superintendents would afford the inestimable advantage of breaking the twenty into parties. The whole should never be left alone together for an instant.

“ It may be reasonably hoped that the rich will procure to the public the benefit that would result from the example of such an institution. They can hardly hesitate, if they will consider with a little attention what it is impossible not to see, but what is perceived to no purpose : I mean the utter insignificance of one or two thousand pounds' difference in a fortune of eight or ten thousand.—Should we even suppose, that the most advantageous culture of mind and body will necessitate such a diminution, of two boys, equal by nature, would not ten thousand pounds go farther in the hands of him who should be brought up with a practical insight into men and things, than twenty thousand in the hands of him who should be subjected to the blind-folding and debilitating routine ? Many schoolmasters, I doubt not, wish in secret for a more active education : and six such seminaries might effect a gaol-delivery of the innocent, misused, little prisoners throughout the kingdom.

“ It will easily be credited on the faith of common observation, and I can assert from experience, that when the understanding is kept in constant but various exercise, and never overstrained or glutted by excess of the same study, progress will



will be much more rapid in this and every other line. The pleasure from difficulties overcome will give ardour to cope with new ones. We observe the sickened and spiritless pupils of our celebrated classical schools, frequently unable to summon up resolution enough to master the first rules of arithmetic. I have known some scores of college youths, regularly lectured in Euclid, but not one in twenty came to understand the first six books of that author. Whereas, boys of nine or ten, if kept in health and spirits, will pass the asses' bridge without boggling, and advance continually with augmented alacrity. Nor will they find the very chips and saw-dust of learning too dry."

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ART. VI. *Observations on the Opinion of Dr. Langslow, that Extravasation is the general Cause of Apoplexy. In Letters to a young Surgeon.* By WILLIAM CROWFOOT. Octavo. 46 pages. ROBINSONS, London. 1801. Price 2s.

THE difference of opinion that occasioned the publication of this pamphlet, was originally made known through the medium of the Medical and Physical Journal. Mr. Crowfoot, however, now presents himself more immediately before the tribunal of the medical profession, appealing to its judgment on the propriety of his practice in certain cases of apoplexy, and on the merits of a dispute between him and Dr. Langslow, which involved that question. "You have heard," says he, in his first letter to his friend, "that in a late case of apoplexy opinions directly opposite were entertained, as to the cause and nature of the disease; it certainly must be worth our while to examine these opinions; if I am in error, I would willingly be corrected, and the benefit may be extended to many besides myself." This profession is highly praiseworthy, and the expectation not unreasonable.

The following is our author's account of the case that gave rise to the sharp literary warfare, waged between the two practitioners:

"A lady about the age of 59, who had complained of vertigo some days before, was immediately after dinner seized with an attack of apoplexy, on the 26th of August 1801. My distance prevented that early attendance which was desired, and a neighbouring surgeon had taken from the patient six ounces of blood, and applied a blister to the upper part of each arm. I learned from this gentleman, that he found the lady in a state



state of insensibility, which lasted half an hour after the bleeding; that the duration of the fit was more than an hour and a half; and that the patient was a good deal convulsed.

“ It was near two hours from the time of the attack, when I arrived. She was much better, and could not only speak, but appeared sensible. The pulse was rather quick, but regular, and she complained of sickness and headach. It was proposed to administer an emetic, and determine how far the stomach was concerned; but this measure was delayed (as the patient was now so much relieved) till we should hear the opinion of a physician, who was every minute expected.

“ The Doctor soon after came, and, upon seeing the patient, gave a decided opinion as to the nature of the case, and asserted in the most positive language, that there was then a considerable extravasation of blood upon the brain, and that the sickness was the effect of compression, &c. &c.; he declared that an emetic, which he understood was in contemplation to be given, was a *most* injudicious remedy; that vomiting caused a very great determination to the head, and would but increase the complaint—the sickness was merely symptomatic, the same as in injuries of the head, wherein vomitings always supervened, &c. &c.

“ You must imagine my astonishment, (for I cannot describe it,) when I heard so prompt and peremptory a decision. A considerable extravasation of blood upon the brain? and no symptom or inconvenience to the patient, but slight sickness and headach? I can assure you, at this time the lady was sensible and collected—she remembered perfectly, not only writing a note to me, the day before, but also the occasion of writing, which she explained to me. There was no mark of paralysis or interruption in the vital or animal functions—no appearance of oppression in the countenance or in the pulse.

“ I could not resist expressing my objections to this doctrine, for the reasons just assigned; but little more passed in this conversation, and each of us seemed to retain his own opinion. Leeches, which the Doctor proposed, could not, I thought, be reasonably objected to, (for, as he had observed, they would not weaken like general bleeding;) and an aperient medicine was ordered to be taken immediately.

“ August 27th.—On my visit this morning, I heard with great satisfaction the patient was better; that after my departure last night, she had sat up in bed, and been very cheerful; and that upon the whole she had passed a good night. Notwithstanding the Doctor's idea of extravasation, I found the leeches



had not been applied; and upon inquiry, I was told, those that had been procured, were thought to be bad ones; but the principal reason, I was pleased to find, was the amended state of the patient. Four leeches were applied this morning, and saline draughts ordered every six hours. The opening mixture had acted properly.

“ August 28th.—The patient continued in a state of convalescence, but had been faint from the evacuations. I therefore recommended (the Doctor not arriving at his appointed time) that further evacuations should be suspended. Just before my coming away, the physician arrived, and I took the opportunity to resume the argument of extravasation; all idea of which I conceived must now be relinquished. The Doctor thought there was *now* but little of the extravasation remaining; but he said, he was convinced of the correctness of his opinion in the first instance, and that extravasation existed in every case of apoplexy. He never knew, he said, any case where there was an abolition of the senses, the *jaw became locked*, and the hands fell down, but was occasioned by extravasation. I asked him, if he had never seen a case of epilepsy? He said, he hoped I distinguished between epilepsy and apoplexy? To which I replied, I only meant to prove his assertion unfounded, that the abolition of the senses was always in consequence of extravasation.

“ I told the Doctor, for opposition makes one earnest, I was perfectly astonished to hear him so positively declare, upon first seeing the patient, that there was considerable extravasation of blood upon the brain. He answered, he *believed* he did not say considerable, and that perhaps it might rather be called exudation, than extravasation. I replied, he might call it which he pleased: if *it was considerable*, compression must be the effect; and in my opinion, in that case, it was a distinction without a difference. However, I assured him, he used the expression of considerable extravasation, and that the opinion was directly in opposition to my judgment.

“ He then acknowledged, the best anatomists were of different sentiments upon the subject, but that he had dissected many, and had always observed it to arise *from extravasation*.

“ August 29th.—I had the pleasure to receive a very favourable report of the patient, from the husband of the lady; stating that my attendance was unnecessary, and saying, though the physician was expected, he did not conceive there would be any necessity for prescribing, the patient being so much better.



“ September 1st.—I was surprised, on making my visit this morning, to find the patient extremely low and weak. She appeared much exhausted by the profuse discharge of the blisters, and the other evacuations. I thought a more generous plan should be adopted, and advised a preparation of the bark, &c. to recruit the strength; but some objection being made, this direction was not complied with, until it should receive the sanction of the Doctor, who was expected on the following day.

“ Here I shall close the history of this case, and only mention that the patient was put upon a more cordial and tonic course of diet and regimen; and by *slow degrees* recovered her former state of health.”

Here is certainly matter enough for argument, which, if the case be correctly stated, may be employed in favour of both parties, and also to their disadvantage. Most of our readers, we imagine, will doubt of the propriety of the step proposed by Mr. C.; and, on the other hand, of the accuracy of the opinion advanced by Dr. L. viz. that extravasation exists in *every* case of apoplexy. Let us hear however what the former has to advance on the subject of emetics.

“ I shall now return to the main design of this paper, the subject of emetics. ‘ Allow me to ask,’ says the Doctor, ‘ how ‘ the brain can be oppressed by a foul stomach?’ Without entering into any explanation, as to the sympathy which is known to exist between the head and stomach, I shall briefly observe, that no one, I believe, except himself, would assert the brain was oppressed, or *suffered compression*, when there was no other foundation for that opinion, than pain in the head, slight sickness, and nausea.

“ Again; ‘ Does Mr. C. really think, that stimulating the ‘ stomach by emetics, will produce a freer circulation than ‘ emptying the blood-vessels themselves? and further, that ‘ plenitude is more expeditiously obviated by vomiting, than ‘ bleeding?’—To these inquiries, I answer, that *distention* of the stomach may affect the brain, by preventing the free expansion of the lungs, and of course a free return of the blood—and therefore, to remove this pressure from the diaphragm, will produce a freer circulation, and obviate that fullness more expeditiously by vomiting, than bleeding.

“ But independent of this reasoning, I would impress upon your mind, that there may exist some irritating matter in the stomach, or some exciting cause, under the particular state of the nervous system, which may be productive of apoplexy.

“ This



“ This may be strongly exemplified in the case of some vegetable poisons, as the dropwort and the lauro-cerasus, &c. which have been known to produce apoplectic symptoms, and for the removal of which, it would be an insult to your understanding to dictate the means of relief.

“ I believe it will be readily conceded to me, that, from what has just been said, the noxious effects of various substances taken into the stomach, have their deleterious operation through the medium of the nerves; and not by their admission into the vascular system, by the common course of the circulation.

“ I would also remark, that the region of the stomach is the stage of many important offices in the economy; all the parts connected with it are extremely irritable, and liable to spasmodic constrictions, incidentally arising from acrid bile, undigested aliments, and the result of their combinations—that the effects of such a disordered state will be imperfect assimilation of the chyle, morbid secretion, and, probably, obstructions, debility, and disease.

“ Under these circumstances, of weakened sensorial power, is it unreasonable to suppose, that our very food may become a poison; and what, in a healthy constitution, might prove salutary, or at least inoffensive, may, in an opposite state of the system, become not only hurtful, but destructive?

“ From all these considerations, I would infer, that although complaints of the kind we are speaking of, frequently arise *immediately* after a meal; yet we ought not therefore to conclude one solitary transgression (if any excess was indulged in) was the only cause of the paroxysm. I suppose a predisposition to exist by some fault in the nervous system, and to have arisen by slow degrees, from habitual errors in diet, by too sedentary a life, by uneasiness of mind, or other debilitating causes.”

As a support of this reasoning, which is both ingenious and plausible, the author adduces two cases of apoplexy, in which emetics were exhibited with success, or rather without detriment; and he cites the authorities of Drs. Fothergill and Kirkland. Yet, after allowing to Mr. C. full credit for the correctness of many of his remarks, and admitting that the close sympathy between the stomach and the brain often renders it extremely doubtful which of those organs may be *primarily* affected, still a cautious practitioner would not hazard an aggravation of disease in the latter, without having strong grounds for believing the former to contain substances of a



peculiarly noxious or poisonous nature. Indisputable instances of the effect of injuries of the head on the functions of the stomach present themselves every day, and records of dissections *abound* with evidence of effusion accompanying apoplectic attacks. Whatever exceptions there may be found to the opinions of Dr. L. and however respectable may be the authorities on which Mr. C. grounds his practice, the majority of cases, (perhaps to a considerable amount,) and the preponderance of doctrinal sanction, appear to us to be in opposition to the last-mentioned disputant.

ART. VII. *A Treatise on the new-discovered Dropsy of the Membranes of the Brain, and watery Head of Children; proving that it may be frequently cured, if early discovered. With Objections to Vomits, &c. &c. To which are added, Observations on Errors in Nursing; on the Diseases of Children, their Treatment, &c. proper for the Contemplation of Parents.* By WILLIAM ROWLEY, M.D. Member of the University of Oxford, of the Royal College of Physicians in London, and Physician to the St. Mary-le-Bone Infirmary, &c. Octavo. 44 pages. MURRAY and HIGHLEY, London. 1801. Price 2s.

SHOULD the reader be unacquainted with the professional labours of Dr. Rowley, he will, by the perusal of the present work, soon be informed of the whole catalogue of his productions, and of the claims which he himself makes to medical and philosophical reputation. Almost every page contains a reference to his own works, which we are given to understand, comprise every thing valuable in the science of medicine; and some of the notes (of which he is very liberal) are a complete advertisement of the nature and supposed merits of his publications. The whole treatise savours so much of the practice of empiricism, that a great part of the advantage which the author conceives would arise from it, must necessarily be lost, by the forbidding mode in which the information he gives us is brought forward; and indeed, if there are even circumstances under which truth itself would lose much of its conviction, we conceive them to exist in the manner in which the observations of this work are communicated.

As the author seems to be particularly anxious to inform his readers of the claims he has to authority as a medical man, we shall, from a wish to place him in the point of view which



appears most favourable in his own eye, give some of his remarks on himself and his works, being convinced that our own opinions will be justified by such quotations.

“ Having dedicated,” (says he in his preface,) “ above forty-five years in sedulous and uninterrupted study and extensive practical duties of a profession, whose excellent and sensible precepts are humanely directed to preserve health and cure diseases; after publishing in the *Rational Practice of Physic* several new sentiments, not only on defects in practice, but for improving the treatment of female, nervous, eye, gouty, bilious, ulcerous, putrid, dropsical, venereal, and many other affections; after producing the two Latin volumes, *Schola Medicinæ universalis nova*; it was not intended,” had it not been, as he afterwards informs us, from the solicitation of some learned professional men, “ to have appeared again in print, until the completion of the third volume of the last-mentioned work, containing all that long experience and observation had furnished in most countries and climates, besides an immense private and public hospital practice.”

These two Latin volumes are thus described in a note: “ *Historia et Schola Medicinæ universalis nova*, continens Historiam Medicinæ, Anatomiam, Physiologiam, atque Pathologiam specialem, cum 68 Tabulis æneis, Auctore GULIELMO ROWLEY, M. D. Universitatis Oxoniensis, Coll. Regal. Medicorum Londinensis Membro, nec non Nosocomio St. Mari-bonensis Medico, &c. &c. Londini. In Ædibus Auctoris, No. 21, Saville Row, St. James's, et Bibliopolarum Tabernis habenda.—This Latin work was the labour of twenty-six years, and intended as an university school-book, to abridge the study of medicine, and to convey, in as small a compass as possible, the history and utility of every discovery that has appeared for above two thousand years. The approbation the Latin edition has met with in most of the learned universities of Europe induces the author to publish it, shortly, abridged in English; and for the benefit of students, and the profession in general, it will appear in numbers.”

It is his intention, he informs us in another note, if his life be spared, to produce a third volume, in addition to the other two, of *Schola Medicinæ* in English, containing the doctrine of every disease incident to the human body, formed on anatomical and physiological truths, and on the most determined experience, collected from all authorities, ancient and modern, worthy of attention, as well as by the immense observations of his own, acquired by between forty and fifty  
years



years practice ; in which not only the English modes of treatment will be introduced, but whatever has been seen in every great hospital through Europe, in the West Indies, America, &c. &c. In which work all idle speculations and false theory, those disturbers and perverters of medical science, will be excluded.

His qualifications for the work may be gathered from another note, in which he says of himself, “ I was early initiated into the operations and exhibitions of the dissecting-room, and instructed to suspect all hypotheses, unsupported by experience and practical facts. From the time I commenced the study of medicine and surgery in 1756, to the present period 1801, I never saw an obscure case prove fatal, that I did not endeavour, from the moment I perceived its importance, to impress, with the greatest solicitude, the necessity of ascertaining the causes. The liberal manner in which the inferior classes of society had been gratuitously relieved many years, at my house, gave a confidence and an influence that few practitioners, perhaps, ever enjoyed : by these means an acquiescence was frequently obtained, which otherwise might have been refused. From the time I became physician to the St. Mary-le-Bone Infirmary in 1790, to the present time, no opportunities have been neglected to enrich science with whatever offered worthy of attention ; and this proves one of the most solid advantages to the pupils of that excellent seminary of medical instruction.”

We shall pass over the various unnecessary digressions which occur, in some shape or other, in almost every page of this work, and shall content ourselves with giving our readers an account of its principal objects nearly in his own words.

Hydrocephalus membranarum consists in the deposition of a watery fluid between the tunica arachnoidea and pia mater ; it is indicated by the following *General symptoms in the animal Functions, or Brain, and nervous System.*

“ I. Heaviness and apparent dulness of apprehension.

“ II. Uneasiness, peevishness, unreasonable mental irritation, and a dislike to infantile amusements.

“ III. Mental irritation is, sometimes, accompanied with momentary delirium and incoherent expression.

“ IV. Momentary horrors, yawning, gaping, and a stretching out of the hands, or slumbering.

“ V. Various degrees of debility in the muscular, or moving powers, dependant on volition, from a limping to a palsy of the lower extremities.

“ VI.



“ VI. Heat on the top of the head, whilst all other parts of the body are cool.

“ VII. The head shakes with an intolerance of light; and is, at times, in great pain; the eyelids are shut, as in sleep, and, if raised by force, on admission of the rays of light, fall down, and immediately close.

“ VIII. A frequent desire to change position; if lying down, an inclination is expressed to rise, and when taken up, crying until they lie down again. No position seems to alleviate the morbid distress of the perturbed mind, and ungrateful bodily sensations.

“ IX. Tears flow, from apparent grief, accompanied with mournful distressed sighs and sobbing.

“ X. Twitching of the tendons, slight convulsions, and spasms, or contraction of the flexor muscles of the hands, and clenching of the fists.

“ XI. Dulness and drowsiness.

“ XII. Stupor, lethargy, convulsions, syncope or fainting, insensibility, death.

*General Symptoms observable in the vital Functions.*

“ I. Palpitation of the heart, but not in all cases.

“ II. Accelerated arterial action, evident in a quick, rapid pulse, from 100 to 150, more or less; but commonly, low and feeble; momentary flushings, or redness of the face in various degrees, as if from increased arterial action, but little heat.

“ III. At different times of the day, the pulse slower, with pallor; alternate flushings and paleness succeed.

“ IV. The pulse is, sometimes, irregular, and, in the latter stages of this disease, feeble, intermittent, and scarcely perceptible.

*General Symptoms in the natural Functions.*

“ I. In some there appears, in the early stage of the disorder, a voracious appetite; in others, a disinclination to food.

“ II. The descension and expulsion of the fæces are impeded; an obstinate costiveness prevails, seemingly from an insensibility and torpidity of the nervous system of the stomach and intestines.

“ III. The skin is commonly dry; the perspiratory organs, or exhalents, seem to have their nervous and active energy diminished.

“ IV. If, superadded to the major part of the foregoing symptoms, the pupils of the eyes be dilated, immoveable, and  
accompanied



accompanied with blindness; and not arising from idiopathic diseases of the eyes, or sympathetic; then it may be depended on, that water is collected in the ventricles of the brain, compressing the *thalami nervorum opticorum*, or origin of the nerves of vision; which disease usually ends fatally."

The rational indications of cure are laid down as the following:

" I. To attract and evacuate fluids from the exhalents of the most contiguous parts, by means of blisters, to the sutures and whole hairy scalp, according to the exigency of the case, and to continue the discharge copiously.

" II. To promote perspiration, and stimulate the absorbents by calomel and antimony, and keep the body warm.

" III. To act upon the torpid enervated stomach and intestines, and occasionally to evacuate serum by mercurial and stimulating cathartics.

" IV. To impart tone and vigour to the debilitated habit by tonics of bark, steel, vitriolated zinc, acid or sweet elixir of vitriol.

" V. The instituting a very dry diet, that the corroborating effects of the tonics may not be counteracted and defeated, by diluting drinks or slops, tea, &c.

" VI. After the cure to still continue the tonics, dry nourishing diet, and warm clothing, to prevent a future relapse.

#### *External Remedy.*

" The cure consists in attracting a great quantity of fluid externally, by having the head shaved, and by the application of a blister covering the whole head, which must continue discharging, by means of *unguentum cantharidis*, or *unguentum sabinæ*; but this latter is not so certain as the former, unless some *pulvis sabinæ* be added.

" As the *unguentum sabinæ* does not cause strangury, if a great discharge be obtained, it is superior to the *unguentum cantharidis*; but a considerable discharge must be procured, or the disease will certainly prove fatal.

" The attraction of fluid to the scalp must be continued a considerable time after the comatose or other pressing symptoms abate, or are entirely removed.

" The size of the plaister may be gradually diminished; and when the cure is completed, and the habit strengthened by tonics, a discharge is no longer necessary.

" To effectuate these purposes, three weeks or a month is the least time allowed for the discharge to be continued; but in cases wherein dulness has been longer observed, the evacuation



cuation by a stimulating ointment has been continued four or five months, about the size of the palm of the hand, or of a crown piece, exactly placed on the vertex, or crown of the head, where the hair naturally divides.

“ All efforts to cure this disorder without blistering have been fruitless; but with blisters and a copious discharge, in the early stages, the cure is frequently obtained.

*Internal Remedies.*

“ The *intestines* are to be kept active by about eight, ten, or twelve grains of powdered jalap, and ten or fifteen grains of magnesia; or to the same quantity of powdered jalap, or rhubarb, two or three grains or more of calomel may be added, if the former should not act. Pulv. scammonii compositus is likewise used for the same purpose. Stimulating clysters may also be occasionally administered.

“ *Perspiration* should be promoted by about a quarter of a grain of calomel, and one or two grains of pulvis antimonialis of the London Pharmacopœia, to be mixed with a little saccharum album, and taken every four or six hours. After each powder, about a drachm, or two drachms of aqua ammoniæ acetatæ, (spt. Mindereri,) diluted with a little aqua, should be given; to which may be added syr. croci; and, if urine be impeded, two drops of tinctura or acetum scillæ may be added.

“ This is the treatment in the commencement of the disease; and it is remarkable, that the mercury does not act as a salivant, nor purgative, but strictly as a penetrating alterative, and generally diaphoretic.

“ After the pressing symptoms abate, which happens in a few days, tonics are prescribed, of infusum rosæ, bark, or vitriolated zinc, myrrh, &c. in small doses, appropriated to ages, circumstances, and peculiarity of cases.

“ The vitriolic acid is proper, if any putrid-tending symptoms accompany the disease, either with or without bark. Vitriolated zinc, to the eighth of a grain, dissolved in aq. rosæ, myrrh, and decoction of Peruvian bark, or a thick solution of the extract with syrup, are proper, where great debility, tremors, or other nervous affections, make their appearance; and likewise when the physician has been called, after the disorder has been of a few days continuance.

“ The hydrargyric preparation, with antimony, is to be continued every night or morning, during the administration of the antiseptics or tonics. The blister is to be likewise kept discharging, which has been already recommended; it occa-



sions great irritation, in many instances; but it is requisite and salutary in this, and all diseases that produce such evident torpidity, comatose, lethargic symptoms, and stupor."

The author concludes with precepts on the management of infants, to prevent diseases and produce vigorous constitutions, and on the general mode of treating children's diseases.

ART. VIII. *Medical Discipline; or, Rules and Regulations for preserving the Health of Seamen in Voyages to hot Climates; more especially of those in the Service of the Hon. East India Company. In a Letter addressed to the Hon. the Court of Directors, and published with their Approbation.* By ALEXANDER STEWART, Surgeon in Southwark, and formerly of the Earl Talbot and General Goddard East India-men. Second Edition. Duodecimo. 107 pages. MURRAY and HIGHLEY, London. 1801. Price 2s. 6d.

THE subject of Mr. Stewart's letter must be admitted to be highly interesting and important. Both the political and commercial consequence of this country depends so much on the welfare of its navy, that we are impelled by every motive, as well of policy as of humanity, to use our utmost endeavours to diminish the hardships and dangers which are so generally attendant upon a seafaring life. During a period of nearly ten years, in which the author occupied the station of surgeon in the service of the East India Company, he must have had sufficient opportunity of making himself acquainted with the causes which, in the voyages to hot climates, operate so unfavourably upon the human constitution. Some of these, indeed, appear inevitable, or at most to admit only of uncertain palliations; but there are others which, by attention on the part of the commanders and officers, may be almost certainly prevented. There is, perhaps, no branch of medical practice which has received more real improvement during the last few years, than that which relates to the preservation of the health of seamen; and from the zeal and ability which have been displayed by those gentlemen who are engaged in this branch of the profession, we have every reason to expect that our information on this important subject will be still farther extended. No individual has done more in pointing out the means by which the health and general condition of seamen might be meliorated than the celebrated Captain Cook. Speaking of this great man, the author remarks, that



his "successful experience has happily evinced how much it is in the power of well-directed management to preserve the blessings of health, in the longest voyage, through every variety of climate. His success, together with similar instances, warrant the asserting with confidence, that sickness and mortality, to the deplorable extent they have so frequently occurred in voyages to hot climates, are by no means to be considered as evils unavoidable; nor as calamities entailed upon mankind from any change of climate or condition. On the contrary, it appears an undoubted and most important fact, (which cannot be too strongly inculcated,) that the human body is fully endowed by its all-wise and never-erring Creator, with great and various powers, wonderfully suited (with due care and attention on our parts) to accommodate itself to every vicissitude of climate and season, to resist disease almost equally well, and to enjoy nearly the same portion of health in all countries."

The power which the human constitution possesses of adapting itself to different situations and modes of life, has long been a subject of admiration to the physiologist; and his inquiries have been frequently directed to the investigation of those peculiarities in the structure and organization of man, upon which this faculty depends. Some circumstances have been detected in the original conformation of the body, which appear evidently designed to adapt the natives of the different parts of the globe to their respective climates; but perhaps more frequently the variations which are observed ought to be attributed to external causes acting continually upon the system, and generating habits and powers appropriate to the situation of the individual. But notwithstanding this pliability of the human constitution, experience proves that sudden changes, particularly those of external temperature, are at all times capable of producing very considerable derangements in the animal economy. From these evils we can scarcely expect that the sailor, who in a few weeks passes from the temperate breezes of Europe to the scorching suns of the torrid zone, should, in all instances, be exempted. Besides the unfavourable effects which are produced upon the system by a sudden alteration of external temperature, the power which a heated atmosphere possesses of acting upon animal and vegetable substances, and forming from their decomposition a variety of noxious vapours or gases, must, at all times, expose the inhabitants, and still more the occasional visitors, of a hot climate, to a source of the most imminent danger.



The life of a sailor is also subjected to a variety of occurrences, independent of the effects of climate, which will necessarily expose him to the causes of disease. The nature of his diet, which, after all the attention that can be bestowed upon it, must be but ill suited for the purposes of nutrition, the frequent exposure to wet and cold, alternations of violent exertion and total inactivity, are circumstances which, if not counteracted by robustness and vigour of constitution, would be sufficient to lay the foundation for a multitude of complaints. These considerations ought to stimulate our exertions, in endeavouring, by all the means in our power, to alleviate the evils to which so important a class of society are subjected. It is with much pleasure that we have perused the judicious advice which is contained in the little treatise before us, and which appears well adapted to answer this valuable purpose.

The author properly remarks, before entering upon his subject, that, “in the prevention of diseases, we are to attend chiefly to one or other of two great points; either to remove entirely the causes from whence it is known diseases have their origin; or, where this cannot be effected, to endeavour to counteract their influence.”

He arranges his observations under the following heads: Cleanliness, Air, Diet, Rest, Exercise, Clothing, and General Remarks. As a specimen of the merits of the work, we shall present the reader with some of the regulations which are recommended under the head of Cleanliness.

“The practice of frequent scraping and sweeping between decks, of washing the upper deck daily, the gun deck twice a week, and lower deck occasionally, is to be continued in warm weather. In cold weather, if due attention is paid to cleanliness, by means of scraping and sweeping well, perhaps it is necessary only to wash the gun deck once in eight or ten days, as dampness, (which always occurs more or less on washing days,) when conjoined with cold, is a formidable cause in the production of scurvy and other diseases. Moisture, when conjoined with heat and stagnant air, is also highly prejudicial, and frequently gives rise to putrid and malignant fevers; therefore, at all times the utmost attention should be paid to keep the ship between decks as dry as possible, by means of stoves properly fitted; by frequent swabbing; by keeping up a free circulation of air, and every other possible means.

“Every day after the gun deck is washed and swabbed dry, four or five stoves, carefully fitted with coal or wood, should be attentively placed on each side of the deck, at convenient distances



distances fore and aft, until every part of it be thoroughly dry. The stoves will have the double advantage of drying the deck speedily, and of correcting and purifying the air; which is generally best and most effectually done by means of fire and smoke."

"It should be a standing rule to sweep every corner of the gun deck twice a day, (after breakfast and dinner,) also to keep the different births as clear from chests as possible, to prevent harbouring dirt and moisture; and to make every mess responsible for the constant dryness, cleanliness, and good order of its birth.

"All the births fore and aft should be regularly visited by the commander, or an officer, accompanied by the surgeon or his mate, morning and evening; and a stoppage of grog, or some such fine, imposed on those who are most careless or slovenly in their births."

The observations, which are made with a view to promote personal cleanliness, we think are deserving of peculiar attention. There is, perhaps, no part of naval discipline which is so frequently neglected, and which, at the same time, may be productive of more mischievous effects. "It is not only necessary that every part of the ship should be kept constantly as dry and clean as possible; but that the crew should be kept so also in their persons, bedding, and wearing apparel.

"They should be regularly mustered, and made to appear clean, with a change of linen; their faces and hands washed, their beards off, and their hair properly combed and tied, at least twice a week.

"Regular and frequent washing days should be appointed; and I would beg leave to propose that a certain number of men (say two out of twelve) should be appointed washermen for the others in rotation; that proper washing tubs should be provided, and a due quantity of soap always laid in (as stores,) to be served out occasionally for the purpose of cleanliness.

"All the hammocks should be washed, cleaned, and well dried at stated periods, (at least once a month,) and the clothes and bedding frequently spread in rotation in fine weather on the booms, or hung up forward for airing; and occasionally these should be purified by smoke of sulphur and tobacco, as circumstances may require.

"A strict and methodical attention in these respects would be evidently attended with much comfort and agreeable sensation  
to



to the men at the time ; independent of the salutary effects it would undoubtedly have in the preservation of health."

The observations on cold bathing are worthy the attention of those persons who are under the necessity of encountering the dangers of a hot climate. " We have frequent and unequivocal proofs of the great utility of cold bathing in warm climates for the preservation of health. It braces and strengthens the system in general : hence its use, in a great measure, will prevent that languor and relaxation so common in hot countries. From the same effect it also enables the body to undergo more fatigue, and it powerfully assists the organs of digestion.

" But, independently of these considerations, its effects, as contributing so much to cleanliness of person, strongly point out the propriety of having frequent recourse to it.

" I have therefore earnestly to recommend, that the men be compelled to use the cold bath once or twice a week, (by having buckets full of salt water thrown over them,) more especially during the time that ships are within the tropics. This, at first, may be thought somewhat inconvenient, but in a short time it would become an agreeable and refreshing habit, that would be readily and cheerfully attended to by the men themselves, without orders or compulsion.

" The bath should be used in the morning watch, when the stomach is empty, and the body not heated with work ; and I would propose, that only half the men on deck bathe the first morning, and the other half, in their turn, the next morning, and so on, in rotation, with both watches. In this way it would come to every man's turn once in five days."

Under the head of Air, which next becomes the subject of consideration, we meet with a number of useful directions for the proper ventilation and purification of the vessel, more especially of those parts which are, from their position, most apt to contain stagnant or impure air. He particularly advises, for this purpose, the use of stoves, which operate both in causing a free circulation, and in preventing dampness ; a circumstance against which, on various accounts, too many precautions cannot be employed. The late invented air machines are also recommended, which the author thinks " appear well calculated for sweetening and purifying the air in every corner." This part of the subject concludes with directions for the management of vessels while lying at anchor in the harbours at which they stop during the voyage. " On the subject of touching at ports on the passage, I think it here necessary



necessary to observe, that in such cases ships should anchor at as great a distance from the shore as is consistent with carrying on the various duties, in order to avoid the land dews and exhalations, which often have been found extremely noxious and fatal.

“Anchoring to leeward of marshes, swamps, or thick woods, at whatever distance, should, if possible, be avoided; and particular care should be taken to keep the ports and scuttles constantly shut on the side next the shore in the night-time, to prevent the land wind from blowing in upon the men while asleep.

“Those who go on shore on duty should avoid getting wet, and be as little as possible exposed to the rays of the sun. They should on no account be suffered to sleep on shore at night, or lie down and sleep in the daytime, which they are apt to do after much fatigue.

“They should be on board about or before sun-set, to avoid the falling of the dews; and they ought never to leave the ship in the morning without a warm, comfortable breakfast; for, as I before observed, men in every situation are most readily affected with the causes of disease in the morning with an empty stomach.

“As those who go on shore on the duties of wooding and watering, are known to be peculiarly liable to very malignant and contagious fevers, the utmost care and attention should, on every occasion, be paid to them.

“They ought always to be supplied with a few doses of bark, or some aromatic bitter; and when the duty is completed, they should be committed for some short time to the care of the surgeon, to guard, if possible, against those fatal fevers which they are so often attacked with; and which, in many cases, may be done by the early use of a vomit, purge, and a few doses of bark.”

Every one in the slightest degree conversant with naval affairs, must be aware of the numerous evils which are attendant upon the diet commonly employed by sailors. Some diseases which are productive of the most fatal consequences appear to originate entirely from this cause; and in most cases a state of body is induced which must render the individual peculiarly liable to suffer from the heat of the climate, and other circumstances unfavourable to health, to which he is necessarily exposed. The hypotheses that have been formed, to account for the mode in which the increased quantity of salt used in diet operates upon the system, are now little regarded; though



it is sufficiently obvious, that its effects are highly prejudicial to the animal economy. The greatest degree of attention, it is to be feared, will not be sufficient to prevent these evils; yet we entirely agree with the author, "that many very material alterations and improvements might be made in the present mode of victualling, which would prove highly beneficial to health, and which, in point of expense, would prove a saving." We are informed, in a note, that Mr. Stewart proposes to state his sentiments more fully upon this subject: we are happy in the prospect of having it investigated by a person who appears so well qualified for the task.

The bad effects of a sea diet are not unfrequently aggravated by the large quantity of fresh meat which the sailors are induced to take whenever an opportunity occurs. On this subject it is remarked, that "in touching at any ports on the passage, great caution should be observed with respect to the quantity of fresh meat and vegetables at first allowed; as I can confidently assert, from repeated observation and experience, that the usual allowance in a warm climate, and immediately after a long course of sea diet, is by far too much; and, if I greatly mistake not, frequently gives rise to obstinate fluxes, fevers, and a variety of bilious disorders.

"It is a general opinion, that after being a long time at sea, the more vegetables and fresh meat seamen are allowed immediately on their arrival in port, the more they will be benefited, and, to use their own expression, the sooner get the salt out of their blood. Having this idea themselves, and knowing no moderation in the use of their liberal allowance, they generally indulge to an excess, which, instead of effecting the wished-for salutary change in the constitution, is frequently the cause of much sickness.

"I am decidedly of opinion, therefore, that, on a ship's arrival in port, the use of vegetables and fresh meat should at first be cautiously moderate, should chiefly be used in form of well-prepared soup, and be only by degrees increased to the usual full allowance."

We are persuaded that our readers will cordially assent to the author's remarks on the use of spirituous liquors; the imprudent and excessive employment of which he considers "as among the greatest enemies the health of seamen has to contend with; particularly when used habitually, in what is called the raw state." The prevalent custom of taking morning drams is noticed with peculiar disapprobation; at the same time it is allowed, that, after great fatigue, or long exposure



posure to cold and wet, a glass of pure spirits may be not only innoxious, but even necessary for the preservation of health. The common beverage, grog, also falls under animadversion, and we think with justice; the proportion which the water and spirits bear to each other can only diminish the pernicious qualities of the latter without destroying them. It would, indeed, appear highly desirable, that neither spirits, nor any mixture of them, should be used as an article of common diet; but if this be impracticable, we entirely agree with the author, that “the only mode in which liquor can be daily allowed to seamen with safety and advantage, is in the form of punch, made with either the fresh or preserved acid of vegetables, as lemon, lime, or orange juice.” The discovery, by means of which the citric acid is prepared in the solid form, may no doubt be advantageously employed by those who shall be disposed to adopt the use of punch in the diet of seamen. The mention of this acid leads Mr. S. to speak of its efficacy in the cure of scurvy; his testimony is the most favourable that can be desired, and is the result of his own immediate observation and experience. “On board the General Goddard, during the voyage of 1792, several cases of scurvy occurred among the soldiers, in recovering from a contagious fever that raged universally for a time amongst them, which were all speedily and effectually cured by the liberal use of preserved lime juice. And I have every reason to think that the disease was prevented in a great many others by the daily use of a small quantity of the acid mixed with water, and the addition of a little wine and sugar.

“Indeed I consider this acid, in its fresh or preserved state, to be as effectual in curing and preventing scurvy, as the bark and mercury are in curing the ague and syphilis; and a large quantity of it as necessary to be laid in by ships at every place where it can be procured.”

Under the head of Rest and Exercise, the author insists upon the necessity of allowing the men a greater proportion of sleep than is usually the case. “Seamen,” he says, “suffer severely in this respect; and it is greatly owing to the short, irregular, and disturbed sleep they commonly have, that they so soon and so easily fall a prey to sickness and premature old age.” He strongly recommends the plan of dividing the crew into three watches, a practice which was found highly beneficial by Captain Cook; but should this be inconvenient, he proposes that, with the present division, six hours of uninterrupted sleep should be allowed instead of four, which is at



present the case. A due degree of exercise being no less essential to health than a proper share of repose, he concludes this part of the subject with recommending, that the men should be encouraged to practise all such active sports as may be consistent with innocence and discipline, at those times when they are not immediately employed upon the ship's duty.

It will be easily conceived, that an attention to clothing must be an essential requisite among the means of preserving the health of persons who are to encounter so many variations of weather and climate. The observations that occur upon this head will be found equally judicious with the preceding ones, and appear to embrace whatever is important upon this point.

In the last division of the work, under the title of *General Remarks*, we meet with much useful advice and many valuable suggestions. Among other subjects contributory to the preservation of health, we think that the author enumerates with propriety a strict attention to the morals of seamen. The observation which he makes will apply to many other classes of men besides sailors, "that the most healthy, cleanly, useful, and valuable seamen, are men of the best private or moral character; and that, very generally, the reverse of the observation will hold equally true."

Some directions for the management of the sick and the convalescents conclude this interesting treatise. The necessity of separating those who are attacked with any infectious complaint from their messmates, though so obvious, has not in all cases, we fear, been sufficiently attended to. The importance of procuring suitable attendants for the sick is strongly insisted upon. "At all times, and in all situations, proper careful attendants should be appointed to watch and nurse the sick, to be at hand constantly to supply their wants, and make their demands known, and to pay the most minute attention in keeping them as clean, airy, and comfortable as possible. On these attentions, frequently, much more depends than on the whole powers and virtue of medicine, and at all times, every hour of the night and day, they ought to be most strictly and carefully attended to."

The usual precautions for purifying the bedding and clothes of the patients, and for removing the infected air from their apartments, are at all times among the most important duties of the medical attendant; but on shipboard this must be more especially the case, where the situation is, on some accounts,



favourable to the spreading of contagion, and where such an event would be productive of the most alarming consequences. As there is no mention made of the vapour of the nitric acid, among the means which are recommended for the purification of infected air, we may infer that Mr. Stewart does not conceive this practice to possess any peculiar advantages.

Our readers will, no doubt, admire the spirit which dictates the following remarks: "When men are recovered and returned to duty, great attention and tenderness are due to them on the part of their officers; indeed, at all times, much depends on the proper conduct of the officers towards the crew in the preservation of their health.

"Seamen, of all classes of mankind, are the most thoughtless, and least attentive to whatever relates to their own welfare; in this respect they are mere children; and the judicious and humane officer, therefore, if I may be allowed the expression, will tend and watch over them with the careful and anxious eye of a parent; he will consider all the crew as one family, of which he is the guardian, and whose welfare and happiness will flow in proportion to the tenderness, care, and attention he bestows in fulfilling those duties, which humanity, as well as the situation in which he is placed, impose on him.

"An imperious, harsh, or ill-natured mode of dispensing orders, or of carrying on duty, I apprehend to be as repugnant to the true spirit of discipline and subordination, as to the pure and mild principles of humanity; instead of accelerating the execution of duty, it invariably retards it, and it never fails of introducing discontent, vexation, and despondency, among the crew; states of mind which I have oftener than once observed to be highly conducive to the production of scurvy, and other diseases.

"An uniform, assiduous, and humane attention to the welfare and comfort of all; to study the character of each, and endeavour to make every man happy and pleased with himself; to check the forward and presuming; to protect the young and diffident; to dispense his orders in a mild and conciliating, yet in a steady, decided, and manly manner; and invariably (in the words of a learned and humane physician) to endeavour to reconcile strict discipline with indulgence and humanity, are certainly among the necessary traits in the character of an able and experienced officer."

The extracts which we have given from this Letter will, no doubt, induce our readers to form a favourable idea of its merits; and we may confidently assert, that this impression



will not be diminished by a complete perusal of the treatise. It will be found to contain, in a short compass, much good sense and many valuable observations, delivered in simple and perspicuous language. Some of the remarks may at first view appear unnecessarily minute, or of little importance; but, to use the author's words, "it should be recollected, that it is seldom from a single cause alone that disease is generated, but that the combined influence of a number of seemingly trivial circumstances, acting in concert on the human body, is often the prolific parent of the most acute, malignant, and fatal diseases; and that it is only by the strictest and most rigid attention to every circumstance, even the most minute, that success, as far as depends on our foresight and exertions, can be ensured."

We shall only add, that we think Mr. Stewart's work, though primarily designed for the use of the vessels in the service of the East India Company, should be carefully studied by every one who is in any way engaged in the management and discipline of seamen.

ART. IX. *Experiments and Observations on the medicinal Waters of Hampstead and Kilburn.* By JOHN BLISS, Member of the Royal College of Surgeons in London. Octavo. 58 pages. PHILLIPS, London. 1802. Price 2s.

THE analysis of these waters has been published in the sixth volume of the London Medical Review and Magazine, at the time when medical communications were received by us. The favourable reception with which they were honoured by some of his medical friends, the author observes, has encouraged him to republish them in this form.

As the substance of the work is already before our readers, we think it not necessary to give an analysis of it here, and shall content ourselves with observing, that we think the author has done an acceptable service to the public, by reminding them of these long-neglected but formerly celebrated waters, and by presenting a more accurate analysis than any of his predecessors could do, from the improved state of chemical science at this time.



FOREIGN BOOKS.

ART. X. *Recueil des Noms par Ordre alphabetique appropriés en Mineralogie aux Terres, &c.*: i.e. *Catalogue of Names of Minerals in alphabetical Order, &c.* By PRINCE DIMITRI DE GALLITZIN. Brunswick. 4to. 1801.

THE sister sciences of chemistry and mineralogy are now become so closely connected with the healing art, that every attempt to facilitate the knowledge of either must naturally be matter of interest to the medical practitioner. Unfortunately, from analysis being still incomplete, and the more intimate combinations of minerals but imperfectly revealed, no system can be permanent, names must often be changed, and methodical arrangements will constantly undergo revolutions. A system of mineralogy consequently becomes a bad book of reference, especially to those who have not sufficient leisure to follow up and collect the innumerable discoveries daily made in the field of chemistry. In fact, the pursuit is almost too wide even for those who devote themselves to it exclusively.

The Prince de Gallitzin, impressed with this idea, has published an arrangement of substances in simple alphabetical order, or after the manner of a dictionary; the latter title, however, he modestly declines employing, as it might lead the reader to expect a performance more elaborate and complete than he professes himself equal to. - The work appears to us to be highly useful, inasmuch as it not only facilitates reference by the very order it exhibits, but saves us the trouble of recollecting disused systems and obsolete names, and (what is still better) leads those who are most accustomed to the former to a knowledge of such as are most recent. We shall here select the following articles as specimens of the author's plan and descriptions, viz.

“ OCHRES, or *Oxyds*—metallic earths. Metals in a state of decomposition become *ochres*, that is, earths deprived of their phlogiston, and therefore of their *metallity*. These ochres cannot resume their metallic state, unless the phlogistic principle be restored to them, which is done by exposing them to a great heat with substances fully impregnated with it.

“ All metallic bodies may be reduced to the state of ochre artificially, but they will not all assume that state spontaneously: gold is decidedly exempted from it, and also platina,  
from



from what we as yet know of that substance; so that there are both natural and artificial ochres, or oxyds. It will be seen under the article METALS, which of them may become so spontaneously. I shall point out, in this place, such only as may be rendered so by art, or *oxydified*; and I shall make use both of the new and the old nomenclature.

“ *Oxyd of silver*—Lapis infernalis.

“ *White oxyd of bismuth*—Magister of bismuth.

“ *Gray oxyd of cobalt*—Zafre, smalt, azur.

“ *Yellow oxyd of mercury, &c.*—Turbith mineral, &c.

“ *Black ditto*—Ethiops per se.

“ *Red ditto, &c.*—Red precipitate.

“ *Ammoniacal oxyd of gold*—Fulminating gold.

“ *Oxyd of gold by tin*—Purple, or Cassius’s precipitate.

“ *White oxyd of lead*—Ceruse, white lead.

“ *Semi-vitreous oxyd of lead*—Litharge.

“ *Yellow oxyd of lead*—Massicot.

“ *Red ditto*—Minium.

“ *Gray oxyd of tin*—Putty of tin.

“ *Sublimated ditto*—Flowers of tin.

“ Metals entirely deprived of their phlogistic principle cannot be *remetallized by art*.” P. 168.

“ LEAD, a metal of the *imperfect division*, of rather a duller white colour than tin, the most fusible, the least ductile, the least elastic, and the least sonorous of all the metals; it has also less tenacity; but, after platina, gold, and mercury, it is the most heavy, for the specific gravity of melted lead is 113.525.

“ Whatever attempts mineralogists may have made to prove the existence of *native lead*, they have never succeeded: the celebrated Linnæus made no scruple to retract what he had said on this subject in the *Mus. Tess.* and in his *Syst. Nat.* In this place, therefore, we have nothing to do but with the ores of lead, of which there is a pretty considerable number.

“ 1. The most common is *galena* (see the article *Galena*.)

“ 2. *White vitreous ore of lead*. (Spathose oxyd of lead. Weiss-bleirez, bleispath, weisser-blispath, spathiges-weisser-bleierz, of the Germans. Plumbum arsenicale mineralisatum minera spathiformi alba, seu grisea, of Wallerius.)

“ According to Cronstedt, it is lead in a state of calx.

“ It is called *spathose* on account of its texture only, for it contains no spar.

“ It furnishes from 80 to 90 per cent. of lead, crystallizes commonly in dodecaëdræ with triangular surfaces, resembling those



those of rock crystal: but it is also found in decaëdral prisms, like those of nitre; and, according to M. le Sage, that of Huelgoat crystallizes in hexaëdral truncated prisms, but is also seen in globular masses striated from the centre to the circumference. That of Geroldseke appears in large transparent cubes, and that of Zellerfeld in very fine, semitransparent prisms.

“ The specific weight of the vitreous lead ore is 65.585.

“ That of the earthy 40.586.

“ 3. *Black vitreous lead ore.* (Schwartz bleierz, schwartzer bleispath, of the Germans. Plumbum terrestre, vel lapideum, minera colore nigro, crystallisata. Minera plumbi nigra, of Wallerius.)

“ M. Romé de Lisle supposed this ore to be an alteration of what is called *red ore of lead*, (minera plumbi spathosa, vitrea, rubescens de Val. de Bom. Min. ii. p. 106;) others imagine that it is decomposed *white lead*.

“ M. Sage asserts, that he has extracted 72 per cent. of lead from this ore, without having discovered an atom of silver. Its form of crystallization is an hexaëdral prism, and sometimes cylindrical, with a foliaceous fracture, in lustre and colour like galena.

“ Its specific gravity is 57.445.

“ 4. *Red vitreous lead ore.* (Red spathose oxyd of lead. Red oxyd of lead. Roth-bleierz. Roth-bleispath of the Germans. Minera plumbi rubra of Wallerius.)

“ This ore is found only in Siberia; for that of Tokopau, in Saxony, consisted but of one lode, which was soon exhausted. It cannot be asserted positively, that it is even analogous in its composition, since the *analyses* that were made at the time were decidedly either defective or insufficient; until M. Vauquelin, nobody suspected that one of the constituent parts of the red lead of Siberia was a peculiar metal, and unknown before. He discovered it in 1797, and named it Chrome. (See the article *Chrome*.) Professor Wintisl, of Persth, maintains, notwithstanding, that this Siberian lead does not contain chrome, but vitriolated manganese.

“ M. Macquart describes four varieties of crystal to this ore, viz.

“ 1. Oblique tetraëdral prism, with the sides inclined at an angle of  $120^{\circ}$ , or  $160^{\circ}$ .

“ 2. The same prism, with the sides at right angles to each other, and a pyramid of three sides correspondent to those of the prism.

“ 3. The



“ 3. The same prism again, with the angles truncated.

“ 4. Half or flattened hexaëdral prism, terminated by a tetraëdral pyramid, correspondent to the smallest sides of the prism.

“ M. Vauquelin has extracted from this ore,

“ Oxyd of lead 65.12.

“ Chromic acid 34.88.

“ Its specific gravity is 60.269.

“ 5. *Green ore of lead.* (Green spathose oxyd of lead. Phosphat of lead, grün bleierz. Grüner bleispath. Phosphor saurer bleikalk. Phosphorisches-bleierz, of the Germans. Plumbum arsenico-mineralisatum. Minera plumbi viridis of Wallerius.)

“ M. Gahn first proved that this ore contained phosphoric acid, and not marine acid, as M. Sage maintained; and it is iron, not copper, which forms its colouring principle, whatever M. Spielmann may have maintained.

“ Its crystallization is derived from the dodecaëdra with triangular sides: it is, besides, susceptible of three varieties; sometimes it is found in mamillary stalagmites, or protuberances, distinguished by green, yellow, and red zones: often it appears in *laminæ*, or in cellular, light, and friable masses.

“ Its specific gravity is 58.6.

“ M. Fourcroy has analysed two of these ores that are found in Auvergne and Alsace, and M. Klaproth a third, the country of which he has not mentioned. The following are the results:

<i>Auvergne.</i>		<i>Alsace.</i>		<i>Klaproth.</i>
Arsenate of lead	65	Oxyd of lead	79	— 73
Posphat of ditto	27	Phosphoric acid	18	— 18 $\frac{3}{4}$
Ditto of iron	5	Oxyd of iron	I	a little
Water	3	Water	2	a little

“ It may be seen by this table, that the Erlenbach ore is analogous to that analysed by M. Klaproth; but that this is not the case with that of Auvergne, which, on account of the arsenic it contains, ought to be separated from this species. In fact, what purpose would be answered by chemical analyses, if they did not regulate the distribution of minerals, and their division into classes?

“ According to M. Vauquelin, the green ore of lead of Beresofsk contains also oxyd of chrome.

“ 6. *Yellow lead ore.* (Yellow spathose oxyd of lead. Gelb-bleierz. Gelber bleispath. Glöttartiges-blei. Gelblich



blich und Tersteinestes blei, of the Germans. Plumbum molybatum of J. R. Forster.)

“ It was thought that this ore was merely a modification of the former. From those which have lately been discovered, however, at Bleyberg in Carinthia, and at Annaberg in Austria, it appears to be essentially different. They are of a citron colour, lamellar, and their laminæ are disposed like cocks’ combs, or confusedly one on another.

“ M. Pallas discovered an ore of this kind in Siberia, but the crystals are like millet-seeds. Moreover, M. Klaproth assures us, that the yellow lead ore contains molybdic acid mixed with calcareous matter, silex, and oxyd of iron.

“ 7. *Sulphureous and arsenical lead ore.* (Bleischweif. Arsenikalischer bleiglang, of the Germans. Minera plumbi calciformes arsenico mixto of Cronstedt; Min. 186. I. D.)

“ Many mineralogists deny the existence of this ore, but it is found decidedly in the Pays de Nassau. It is of a grayish black colour, has very little brilliancy, and is mineralized by sulphur and arsenic.

“ 8. *Lead ore in grains.*

“ Found at Calle, in the Pays de Juliers, and at Grubenhagen, in round grains, of the natural colour of lead, mixed with quartzore sand, and the whole slightly agglutinated by a cement which seems to be of the same nature as the sand. These grains, detached from their matrix, might be taken for native lead.” P. 203.

Subjoined to the alphabetical arrangement of mineral substances in general there is a lithological table, the divisions of which are founded on their various combinations, and the relative proportions of the several component parts. The author makes use of alphabetical signs for abridging this table, and saving the trouble of definitions: for example, the nine first letters of the alphabet serve to distinguish the elementary earths, and also to point out their various chemical combinations. The reader must be long familiarized to arbitrary signs before they can facilitate reference.

From the extracts given above, it will be perceived that the principal recommendations of Prince Gallitzin’s work are the order and the synonymy. It is not free from very considerable oversights and omissions: for instance, no reference is made to Mr. Hatchett’s experiments on the Carinthian molybdate of lead in the description of that substance which we have quoted, though those experiments are the most complete and satisfactory that have been made. But the work will be found



to answer a very useful purpose, though it should serve only as a foundation for similar publications more elaborate and correct.

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ART. XI. *Journal de Medecine, Chirurgie, Pharmacie, &c.*:  
i. e. *Journal of Physic, Surgery, and Pharmacy.* By Citi-  
zens CORVISART, LEROUX, and BOYER. Duodecimo.

THE contents are, 1. A confirmed Aneurism of the Heart, by Citizen *Tonnadier*—2. On the confluent Small-pox, by Citizen *Friteau*—3. A second Eruption of the Vaccine, by Citizen *Desgranges*—4. Analysis of the Tables of Citizen *Verdier* on the Vaccine, by Citizen *Marcescheau*—5. Wounds penetrating the Abdomen, by Citizen *Richerand*—6. An encysted Tumour near to the Articulation of the Knee, by Citizen *Paroisse*—7. Meteorological Observations made at Paris in the Month of Floreal, by Citizen *Cotte*—8. Meteorological Observations made at Lisle in the same Month, by Citizen *Dourlou*—9. Diseases observed at Lisle in the same Month, by the same.

[*Journal de la Lit. de France*, N° VII. Année 9.

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ART. XII. *Extract d'un Projet d'Organization medicale*:  
i. e. *Extract from a Plan of medical Organization.* By  
Citizen DUCHENOÏ. Octavo. 29 pages.

THE author's plan is chiefly dedicated to the two principal bases of the art of curing, which are *the bringing that art to perfection*, and *the relief of the sick*. These two foundations consist in teaching physic generally, and practical surgery, by opening clinical schools in all hospitals, where the importance of the place, the population of the city, or a sufficient number of patients received into these asylums, will together ensure economical and commodious means applicable to the plan proposed. Citizen Wurtz, a physician of Strasburg, in 1764, published such a plan in a little work, entitled *Memoirs on the Establishment of Schools of practical Medicine*.

[*Journ. de la Lit. de France*, N° VII. Année 9.



ART. XIII. *Anatomische Kupfertapeln des B. EUSTACHIUS, &c.*: i. e. EUSTACHIUS's *Anatomical Tables, accompanied with explanatory Descriptions*. Edited under the Direction of A. BONN, and translated from the Dutch by J. C. KRAUS. Folio. 264 pages. With 47 plates. Amsterdam. 9 rix-dollars.

WHEN we contemplate the more complete works of *Albinus, Haller, Vicq d'Azyr, Loder, &c.* we may look on this work as superfluous. Yet, if we consider that the price of those works is often beyond the pecuniary abilities of the students in anatomy, a republication and translation into German of the *Anatomy of Eustachius* presents many advantages.

In 1798 the celebrated Bonn gave a new edition of Eustachius's tables, which he accompanied by an explanation in the Dutch language. M. Kraus thought he should render a service to the students of anatomy in Germany by a translation of his explanations, and has caused the plates to be engraved in a correct manner; and, at the same time, has been so attentive to economy, that the price of the work is not too high for the amateurs. He has also facilitated the explanation of the plates by a correct reference to the figures, and by the addition of the German nomenclature of Sæmmering. It were to be wished he could have added some new plates of the recent discoveries, which would perhaps have increased the price of the work, but would have rendered it more complete.

[*Journ. Gen. de la Lit. Etrang.* N<sup>o</sup> I. An. 10.

## MEDICAL INTELLIGENCE.

### Art. 14. *Galvanism.*

THIS subject, at present, occupies almost all the German philosophers and chemists. Tromsdorff has burned various metals by a pile of one hundred and fifty plates; and we hinted in our last Number, that at Vienna a discovery had been made of an artificial magnet decomposing water equally well with Volta's pile, or the electrical machine; whence they conclude, probably too hastily, that the *electric, galvanic, and magnetic fluid* are the same. This experiment has not, however, been yet repeated with success in this country. Mr. Nicholson applied the poles of a five-bar magnet to two steel wires in a



tube of water, having their extremities in the water less than one tenth of an inch asunder; but was not able to perceive any effect.

Professor Tourdes, of Strasboursgh, in a letter to M. Volta, gives an account of a very curious experiment made with blood, which he thinks tends very much to establish the idea of its vitality, which was first maintained by Hunter. This fluid, deprived of its lymph, and aqueous moisture, was reduced to the fibrous state; it was then submitted to the action of a galvanic pile, being exposed to the temperature of about 100° of Fahrenheit, and exhibited a sort of oscillation, trembling, or palpitation, similar to what is observed to take place in the muscles of an animal newly killed: this motion was very evident when the blood was viewed with the aid of a convex lens, and Prof. T. thinks it characteristic of the vital power peculiar to muscles.

In the third number of the New Series of Nicholson's Philosophical Journal, is a letter from Dr. Priestley on the subject of galvanism, in which he denies that the phenomena prove the decomposition of water; for the oxygen, he observes, does not bear the alleged proportion to the hydrogen, but arises only from air dissolved or absorbed by the water. His theory of galvanic phenomena is the following: Since the operation wholly depends on the calcination of the zinc, which suffers a great diminution of weight, while the silver is little affected, and all the metals lose their phlogiston in calcination, what remains of the zinc in a metallic form in the pile, and every thing connected with that end of it, he supposes to be super-saturated with phlogiston, while the calcined part, and every thing connected with that end of the pile, is deprived of it. The former, therefore, is in a *positive* state, and the latter in a *negative* one, with respect to phlogiston; and he seems to think, from these experiments, that this is the same thing with positive and negative electricity; so that the electric fluid and phlogiston are either the same, or have some near relation to each other. The silver, he thinks, seems to act principally as a conductor of electricity; for the surface of it only becomes blackened in some places, in consequence, probably, of receiving phlogiston from the zinc; for he denies that the black powder into which the silver is converted, is an oxyd of that metal: the water, however, he thinks most essential to the process, because it constitutes the principal part, if not the whole, of the addition of weight in the calx. Accordingly, in the calx of zinc, he asserts that he has found nothing but  
2  
water;



water; though he allows it is probable, that there may be a small portion of oxygen in it.

These experiments, the Doctor thinks, favour the hypothesis of *two electric fluids*; the positive containing the principle of oxygen, and the negative that of phlogiston. These united to water, seem to him to constitute the two opposite kinds of air, viz. dephlogisticated and inflammable.

These experiments, he further observes, tend likewise to confirm the conjecture which he advanced in his first publication on the subject of air, concerning the *similarity of the electric matter and phlogiston*; and, together with the proper galvanic experiments, shew, that the same substance elaborated from the aliment by the brain is the cause of muscular motion, the nerves being the most sensible of all electrometers.

Had this process, he states, succeeded without any atmospheric air incumbent on the water in which it is made, it would have amounted to a full proof of the new theory, one part of the water being deprived of hydrogen while oxygen abounded in the other, and both of them with the assistance of *caloric* (though it does not appear where that could be supplied) assuming the form of air. But this not being the case, the element of the dephlogisticated air evidently coming from the superincumbent atmosphere, the element of the inflammable air must necessarily come from the calcined metals, which he regards as a sufficient proof of the doctrine of phlogiston.

Though we are by no means inclined to agree with the Doctor in this opinion, we are ready to allow that he has displayed his usual ingenuity in defence of his favourite hypothesis.

Art. 15. *Nature of the Earth which is eaten by the Inhabitants of New Caledonia.*

Humboldt, in a letter to Fourcroy, affirms, that the Otamagues almost entirely subsist on a kind of earth for three months, when the Oronoko is so high that they can find no more turtle. Some of them eat a pound and a half daily. It is affirmed by the missionaries, that they mix it with the fat of the crocodile's tail: this is denied by Humboldt, who insists that they do nothing but slightly burn and moisten it.

Citizen Labillardiere has stated a fact equally singular, from an observation made in a part of the world considerably distant from that inhabited by the Otamagues; that the inhabitants of New Caledonia, when pressed by hunger, eat a large



large quantity of greenish steatites, which is soft and friable. It may be easily imagined how the dreadful custom of eating prisoners of war might have been introduced among a savage people, who are reduced to such want as to be obliged to satisfy their hunger by distending their stomach and intestines with an earthy substance which has no alimentary quality.

Citizen Vauquelin, wishing to know the nature of this earth, and to discover if it contained any nutritive parts, has analysed it by the usual methods, from some specimens which were sent him by Labillardiere. This earth is soft to the touch, composed of small fibres, which are easily separated, and when ignited it loses about  $\frac{4}{5}$  of its weight. It is composed of 37 parts of pure magnesia, 36 of silix, 17 of oxyd, 3 or 4 of water, and 2 or 3 of lime and copper. It does not, therefore, contain any alimentary parts, and can only be considered as filling the stomach; a kind of mechanical expedient to suspend the pains of hunger.

Art. 16. *Diseases at Glasgow.*

A physician at Glasgow, in a letter to Dr. Garnett, observes, that "the last winter has been productive of an unusual number of catarrhal complaints, many of them attended with a considerable degree of fever. There have been few fevers of the typhus kind for the two last years, so that I have not had frequent opportunities of employing the cold bath, which practice you first introduced here with so great success; but where it was used, I had much reason to be pleased with the effect. I have found the oxygenated muriate of potash, introduced likewise first by yourself, of great use in some of these fevers, and in cases of obstinate ulcers of the legs. The same effect has also followed the use of the nitric acid."

Art. 17. *Thermo Lamp.*

A correspondent, who signs himself S. P. observes, that the gas which the wood affords during distillation is not gaseous oxyd of carbon, but light hydrocarbonate gas. We are much obliged to this correspondent for his observation; our imperfect account of the thermo lamp was taken from a newspaper, and we should thank either S. P. or any other gentleman, for a more particular account of this invention.

Art. 18. *Annals of Philosophy, &c.*

The second volume of Dr. Garnett's *Annals of Philosophy, Chemistry, and the Arts*, is in the press, and will shortly be published.

Art.



Art. 19. *Proust on metallic Sulphurets.*

This celebrated chemist has lately published an important memoir on metallic sulphurets, in which he maintains that they are mere compounds of sulphur and metal, without any oxygen; and that the difference in the external characters and chemical properties between the several varieties of the same species of sulphuret, are owing to the respective proportions of sulphur which they contain.

Art. 20. *Zoonic Acid.*

Citizen Thenard has just finished an examination of the zoonic acid; and if his experiments be accurate, it would appear that this acid is nothing but the acetous acid combined with a peculiar animal matter.

Art. 21. *Singular Facts relative to a Case of Blindness.*

Mr. Peter Foissin, of Charleston, South Carolina, in a letter to the editors of the American Medical Repository, relates the following curious case:

“ Philip, a negro man, aged 25 years, received a blow from a whip on the right eye, which had the effect of inducing a complete cataract. Either from sympathy, effusion, or the excessive action of the rays of light upon the left eye, it, in a short time, became affected with amaurosis, to the utter extinction of sight. His other senses are much improved since the accident, particularly that of feeling, which is so nice that he can, without hesitation, ascertain when he approaches any body, animate or inanimate, by a peculiar sensation, the acuteness of which is so exquisite, as to enable him to say with precision what part of his body is approximated to the object. His venereal appetite, which, prior to his blindness, was moderate, is now so much increased, that three women, with whom he is now connected, are scarcely sufficient to satiate his inordinate desires. He goes to market, or any other part of the city, without difficulty, and with surprising expedition; and such is the wonderful effect that habit has wrought upon him, that he declares, were he restored to sight, it would be impossible for him to pursue his daily avocations with as much precision and facility as he does at present.”

Art. 22. *Discovery of the vaccine Pock among American Cows.*

Dr. William Buel, of Sheffield, in the State of Massachusetts, in a letter to Dr. Miller, of New York, dated May 1801, describes the case of a lad, in his neighbourhood, affected with an eruption on the face and hands, greatly resembling  
vaccine



vaccine pustules, to whom he was called on the 10th of the preceding month. With matter taken from these pustules he inoculated several persons, and observed the disease to pursue a similar course, and to exhibit similar phenomena, to a case of actual vaccine pock then under his care. After the termination of this new disease, he *tested* it, as usual, by variolous inoculation, with the same happy result as in other cases of vaccine pock. Upon inquiry, he found that the lad had sometimes milked cows; that these cows had been observed to have sore teats; and that the hands and face of the lad had been prepared for the reception of the disease, by having been previously scratched in play with his companions.

Dr. Elisha North, of Goshen, in the State of Connecticut, who has bestowed much attention on the vaccine disease, has found it among the cows of that neighbourhood, and inoculated from it with success.

Dr. Joseph Trowbridge, of Danbury, in the State of Connecticut, in a letter to Dr. Mitchill, of New York, dated July 1801, communicates a similar discovery which he has made among the cows of that place. At that time he had inoculated three persons of his own family, and the disease produced exhibited all the appearances of the genuine vaccine pock.

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ART. I. GULIELMI HEBERDEN *Commentarii de Morborum  
Historia et Curatione.* Octavo. 417 pages. 1802.

FEW professors of the healing art have attained eminence and reputation more deservedly than the late Dr. Heberden. His personal character and qualifications, his benevolence, his modesty, his integrity and independence of conduct, could not fail to command universal respect, and to give dignity to the profession which he practised; a dignity which we daily see sacrificed by others to the most sordid, sinister interests, to an affectation of knowledge never hitherto really attained, and to an ostentatious display of titular distinctions unsupported by intrinsic merit. That eminence, however, which is acquired less by science than by servility, must perish with the life of its possessor; and he alone will obtain a place in the immortal register of the great and good, who has increased that number by the superiority of his example, and by unequivocal testimonies of solid attainments. Such testimonies have been bequeathed to the world by the venerable scholar and physician whose name we have mentioned.

This posthumous publication is dedicated by the editor (Dr. William Heberden) to the gracious monarch from whom his father, when living, received so many marks of favour and condescension. There are prefixed also some short biographical memoirs, by which we learn, that the author was

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born in London A. D. 1710; and that, after having passed through the usual course of classical education, he completed his studies at St. John's College, Cambridge. In 1730, he was elected fellow of that society, and, during ten years, he practised physic in the university, but afterwards removed to the place of his nativity, where he continued in that profession, with no less devotedness than success, for the space of thirty more. As his age advanced he withdrew himself by degrees from practice, and passed the summer season of the last twenty years of his life at a country-house in Windsor. He died in 1801, after having exceeded his 90th year.

The work which we are about to analyse is the result entirely of personal observations and experience, the imperfections of which the author was unwilling to supply by copying from the works of others. Happy, indeed, would it have been for the science of medicine, if every writer had thus confined himself to what he knew experimentally! It was the custom of Dr. Heberden to keep regular notes of every case with which he was professionally acquainted, and to record the progress of it from the account given by the patient or the attendants, or from his own observation. He usually read over his notes once in every month, for the purpose of transferring such particulars as were useful into a fair book, under the titles of the respective diseases to which they had reference.

From this book the present Commentaries were compiled in the 72d year of the author's age. So great, we are told, were his correctness and scrupulosity, that he did not insert a single fact from mere memory, unless he could confide in it without hesitation.

From the account just given, it is evident that this volume, the fruit of most extensive opportunities, and of indefatigable attention, during a long and conscientious life, must be an invaluable addition to the stock of medical knowledge. To the classical physician it is a rich acquisition in another point of view, viz. as one of the most pure, elegant, and perspicuous pieces of Latin composition that has adorned the pages of Hygeia since the oral disuse of that language.

We proceed to present extracts to our readers in the order wherein the Commentaries are arranged, which is alphabetical, and which they will at once consider an auspicious indication, that the solid deductions of experience, not the insidious speculations of theory, form the subject of the work.



The two first chapters, *De Victu* and *De Ratione Medendi*, seem to form a kind of preface, being alone exempted from the order of the initial letters. In the former of these, the author gives us his sentiments on the subject of *diet*, concerning which physicians have, in his opinion, taken much needless trouble, and imposed restrictions with too much nicety. Mankind, in general, are well enough informed, from their own experience, of the relative salubrity of different species of food, and are sufficiently taught by the subsequent sensations of their own stomachs, that disease instead of nutrition is the effect of a variety and piquancy of dishes. With respect to drink, indeed, the Doctor thinks it necessary to enjoin particular caution, a caution unfortunately wholly at variance with the fashions of the times, and with national prejudices. We ought to be content, says he, with pure water, or small beer; as for wine and spirits, whether diluted or otherwise, they are to be shunned as “*cane pejus et angue.*” The English (as was the case in the time of Erasmus) take a larger proportion of animal food than most other nations, except when under the dominion of disease, at which times they loathe it most of all; but it is thought that, in the highest degrees of fever, broths and gelatinous preparations are perfectly safe. Even milk and eggs, though prohibited in every species of fever by some writers, our author imagines may be taken with impunity in the worst, provided they are palatable to the patient. In regard to drink, in febrile diseases, he seems to agree with most modern practitioners, and to allow that it is of no importance whether the water be warm or cold, nor what quantity be swallowed, so long as the patient’s inclination is consulted. In all diseases whatever, he would also allow the latter to quit or keep his bed according to his own inducement, unless insanity or delirium render it unfit for the diseased person to determine for himself. The fear of changing the linen, and of the smell of soap, has luckily now ceased to require being combated.

In his general maxims of healing, Dr. Heberden has given us a pretty ample confession of his faith, which those who are young in the art, or sanguine in their disposition, or whose imaginations are warmed with theories, will read with emotions of surprise, if not with absolute distrust.

“An dentur specifica quæ vocantur, sive illa quæ propriam vim habent adversus morbum quo æger laborat. Multa hujus generis ubique venditata sunt, quorum paucissima fautorum promissis, et medicorum votis responderunt. Nusquam magis



convenit vetus illud, *ναφε καὶ μέμνασ' ἀπιστεῖν*. Hujus tamen nominis honor merito tribui potest argento vivo ad morbos Veneris, cortici Peruviano ad febres intermittentes, sulphuri ad scabiem, opio ad quasdam distentiones, et aquis Bathoniæ ad ebriosorum fastidium.

“ Præter hæc pauca, dubito an medicamenta decem alia possint reperiri, quæ ab idoneis authoribus in specificorum, id est, certorum remediorum classem relata fuerunt, quorumque fama postea usu comprobata est. Non sum nescius quanto studio decantata fuerunt borax ad aphthas, pulvis Portlandicus ad arthritidem, scilla et gummi foetida ad asthma, aqua kali puri ad calculum urinæ, cicuta ad carcinoma, electrificatio ad cæcitatem, antimonium ad febres continuas, cerussa acetata ad sanguinis profusionem, et nonnulla forsitan alia adversus alios morbos. Ex quorum medicamentorum numero si eximeris quæ vel nullas habent vires, vel exiguas, vel inconstantes, vel etiam periculosas, vix unum et alterum relictum iri crediderim.”

Hence we learn, that this venerable physician's catalogue of effective medicines, or *specifics*, contains only two in addition to those of a late eminent teacher, and these are *opium* (for the cure of some spasmodic diseases,) and *Bath water*, (in the dyspepsia of drunkards.) A melancholy sentence for mankind, and which, however warranted by experience, it would, perhaps, be imprudently candid in a *living* practitioner to support!

The following observations are particularly deserving of the reader's attention, viz.

“ In physiologia, et in pathologia humani corporis explicanda, modo haud satis, modo nimium tributum est principio et fonti vitæ animalis. Quippe alii de facultate hac obscura loquuntur, tanquam de re bene cognita et perspecta, cujus administratione contendunt se omnium corporis actionum, et remediorum, rationem reddituros; ingeniis suis multo magis confisi, quam experientia et rerum usu docti. Alii contrarium errorem errantes, prætermisissis facultatibus, quæ vitæ propriæ sunt, nodos omnes per rerum inanimatarum leges student expedire.

“ Quicquid demum sit illud, quo vita animalis continetur; usu instructi sumus variis rebus, quæ vires ejus vel augere possunt, vel minuire. Nempe enervant omnia, quæ dicuntur narcotica, tum maxime herba digitalis. Contrarios edunt effectus vinum, et potiones meraciores, et quicquid ventriculum reficiat, aut fortiter sensus irritet. Illud tamen tenendum est,

nimio



nimio vino obrui vires, quæ a quibusdam narcoticis parce adhibitis haud mediocriter recreantur.

“ Ex narcoticis quædam vulneri infusa nocent; plura, ac fere omnia quæ erigunt animum, nihil agunt nisi in ventriculum demissa: quæ quidem pars tantam habet dominationem in universum corpus, ut res quædam jucundæ, aut noxiæ, quamprimum stomachum contingant, recreant nos penitus, et reficiunt, vel affligunt, aut etiam occidunt.

“ Medici profecto est, signa morbi quæcunque adversa depellere, vel levare, quantum id tuto fieri potest; attamen primum omnium studere oportet, ut vita ipsa, quæ in omni ægrotatione aliquid detrimenti capit, sustentari, et incolumis adversus impetum morbi præstari possit.

“ In iis rebus quæ vitam jacentem erigunt excitantque, numerantur quæcunque sensus irritant; quæ quidem præsentī, at brevi auxilio sunt ad defectionem animæ, et debilitatem repentinam. Diutius movent vinum, et aromata; et proinde utiliter adhibentur in multis morbis, ubi vires jacent: sed videndum ne usus liberalior nimium faciat calorem, aut etiam ebrietatem. Mortonus centum fere abhinc annos in non levem reprehensionem incurrit, propterea quod aromatibus præter modum usus est ad refocillandos, ut ait ipse, exsuscitandos, erigendos, instaurandos, et stimulandos spiritus animales. Tutius simul et efficacius præsidium ventriculo vitæque petitur ex medicamentis amaris, aut leniter astringentibus. Flos chamæmeli in pulverem tritus plerisque satis jucundus est, aut certe tolerabilis. Cortices, ligna, et radices, in aquam immittere præstat, vel ex aqua decoquere; qui humor colatus ipsis medicamentis contritis sæpe anteferendus est. Bene est, quod inter ea quæ terra gignit, hujus generis multa sunt. Nulli vero cedit cortex Peruvianus. Hujus corticis uncia, et radicis zingiberis drachmæ, si aquæ ferventis libra superinfundatur, fiet liquor, cujus, sesquiuncia, vel uncia binæ, in quolibet fere morbo tuto et utiliter dari possunt. Sed cortici Peruviano a quibusdam objecta sunt crimina, nescio quæ, inflammationem augendi, et reprimendi pituitam: aiunt enim vim astringendi in hoc cortice tantam esse, ut fibras, quæ in omni inflammatione nimis tenduntur, adhuc magis intendat, impediatque ne faucium et pulmonis membranæ pituitam expellant. Cui quidem doctrinæ, satis speciosæ, in scholis medicinæ forsitan assentimur; cum autem ad usum et experientiam ventum fuerit, assensio illa omnis, nisi fallor, elabitur. Jamdiu enim est, quod cortex in pessimo inflammationis gradu, cum prope abest a gangræna, tutissime datus fuit, ita ut huic malo multi

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putant nullo modo melius succurri posse; tum quoque interdum vidi illum non parca manu adhibitum ad variolas, sine ulla pituitæ remissione; quinetiam in quodam asthma fere deploratum per annos aliquot multo mitius factum est, dum sumeret quotidie hujus medicamenti scrupulos duos mane et vespere. Ubi diligentia adhibita est, ne ventriculum prægravet, opprimatque, nullus dubito quin in quocunque fere morbo tutum saltem, si non efficax remedium sit."

The chapter *De Angina et Febre rubra* contains an excellent detail of the symptoms, which are considered as constituting one and the same disease, and which the author was confident may attack the same person twice. The following are his sentiments on the subject of cure, viz.

"Quod attinet ad curationem febris rubræ et anginæ; levis iste faucium dolor, longe alius quam qui fit ex inflammatione, sanguinis missionem certe non postulat; quam etiam horum ægrorum tenera plerumque ætas, et habitus corporis infirmus, non obscure prohibent. Interdum tamen juvit modica sanguinis missio initio morbi, cum ardor et dolor capitis vehementius fatigarint ægrum cibus lautioribus assuetum. Sed eam in plerisque tutius omitti putaverim, et in paucissimis utiliter repeti posse; quanquam non negaverim me adfuisse nonnullis, quibus sanguis bis detractus fuerit impune. Alvus semel quotidie soluta nemini, quantum scio, nocuit; at nunquam autor essem ut sæpius moveatur. Quod si sua sponte fuerit solutior, quantocyus erit cohibenda. Morbo tamen mitigato, præsertim in pueris, utiliter adhibentur ea, quæ alvum leniter movent. Emplastra cantharidis non mediocriter prosunt: ideoque illis carere æger non debet, donec morbus inclinatus sit.

"Aqua in qua decoctus est cortex Peruvianus, utilis est in hoc morbo; cui adjici possunt pauca grana cujusvis jucundi pulveris aromatici, ubi æger fuerit languidior. Ex decocti hujus, et decocti hordei compositi, singulorum pari mensura, fit quoque gargarisma, quo sæpe est gargarizandum; quod etiam in fauces infantum per fistulam infundi debet. Nec tamen hoc moleste repetendum est, ultra quam ægri libenter ferant: etenim auxilium inde sperandum non multo majus est, quam ex crebra sorbillatione hujus vel jucundioris cujuslibet succi, qui, dum per fauces transit, abluat illas, abstergatque. Adulti quidem sordibus ablutis gargarismata reddunt: infantibus autem quicquid sic sorbeatur, sive infundatur, in stomachum pariter descendit. Idem fit, ubi aliquid in nares infusum est; quod igitur vix tuto facere licebit, ne scilicet sordes



sordes ablutæ plus noceant in ventriculum demissæ, quam si in naribus restitissent.

“ Omnis alia faucium curatio præter gargarismata, ut mihi videtur, est repudianda, utpote tædii multum, auxilii parum aut nihil allatura. Multi tamen docti expertique medici aliter de hac re sentiunt, et multum ad ægri salutem conferre putant ea remedia quæ faucium propria sunt. Quapropter non cessant incidere satis altis plagis crustas illas circa tonsillas, et uvam, ubicumque ferrum admovere licet; quo facto, palatum unguunt medicamento quod habet mellis rosæ unciam, oxymellis æruginis drachmam; atque hoc etiam fauces sæpe quotidie illinunt. Postremo, etiam vi quadam non dubitant carnem fungosam sordidamque a partibus ulceratis avellere; quæ tamen usque renascetur, donec febris constiterit. Dolendum interea est iis, qui hanc viam insistunt, vix locum esse hujusmodi medicinæ in ætate puerili, ubi morbus hic præcipue acutus esse consuevit; nec in qualibet ætate, modo crustæ illæ nares, tracheamve occupent, quibus maxime opus est remedio.”

It is remarkable, that no mention should be made of emetics in the therapeutic part of this Commentary, especially as they have been in such general use for some years past, and as they are considered by most modern practitioners as constituting the principal remedy, when there is an opportunity of exhibiting them at the commencement of the guttural affection.

In the chapter *De Arthritide* we find many important and excellent observations; those which we shall here extract are suited rather to the perusal of patients themselves than of their physicians, from whose minds, it is hoped, most of those ideas are at length removed, which are thus so successfully ridiculed and controverted.

“ Paucos tamen vel pudet, vel piget, tam tetræ valetudinis; quin multi ambiunt hunc morbum, et si forte ægrotaverint, arthritidem subesse libenter existimant, et se consolantur quod aliquando fiant arthritici; quem etiam in finem multa ultro moliantur: tamen bene evenit ut plerumque excidant votis.

“ Haud facile dictu est, unde evenerit, ut nonnulli morbi in quibusdam regionibus et sæculis existimati fuerint honesti et expetendi; dum alii turpes et probrosi sunt; licet neque in ipsis morbis insit justa aliqua honoris aut infamiæ causa, neque in modo quo contracti sunt. Epilepsia summum terrorem veteribus Romanis videtur incussisse: herniæ quoque adhuc dedecori sunt. Suus quibusdam affectibus honos accessit eo quod viro cuidam magno contigerint; vel quia præcipue invadunt beatos illos, qui otio et omnibus bonis affluunt. Ludovicus



vicus XIV Galliae rex cum forte fistula ani laboraret, non pauci ex subditis ejus sibi persuaserunt se eodem vitio fuisse correptos, et non leve negotium facesserunt chirurgis, qui tum vivebant, ficto suo morbo petentes auxilium. Quod si in Gallia fuisset aqua medicata quæ fistulam potuisset inferre, illuc puto haud minus cupide properatum esset, quam Bathoniam nostri petunt, ut reportent podagram. Hic enim est ille morbus, qui nunc apud Britannos in honore est; quem exoptant, ii, quibus est incognitus; de quo etiam gloriantur, qui se jam jam ab eo occupatum iri autumnant: quem autem serio deplorant, quotquot cum hoc acerbo malo revera conflictantur. Hinc fato singulari evenit, ut hodie plus operæ detur ad gignendam, vel excitandam arthritidem, quam ad sanandam, et penitus fugandam. Quippe tantum honoris huic morbo tributum est, ut omnia alia mala quæ arthritici experiuntur, præter dolorem, ideo oriri existimentur, non quia nimium podagræ passi fuerint, sed quia nondum satis. Et profecto arthritidis non modo non culpatur ut horum causa malorum, sed exoptatur tanquam in cujus repetitis accessionibus unica spes sanitatis reponitur.

“Propter cupiditatem vitæ, vel mortis timorem, plerique homines valetudines suæ conquassatæ et perditæ signa sentire pariter ac fateri nolunt; quæ itaque cuius causæ tribuuntur, potius quam appropinquant et inevitabili morti. Hinc, ubi vires cœperint deficere, homines facile se sinunt persuaderi ægrotationem suam latenti podagræ deberi, et nihil deesse ad corporis animique robur restituendum, nisi justam podagræ accessionem. Verum, ut nihil dicam de levibus rationibus quibus plerumque innititur spes latentis arthritidis, quærere velim an certo constet, quod fidenter dicitur, morbum articulare, ubi sævit, omnes alios morbos expellere? et ubique licere vel gignere, vel excitare podagram, sine ullo periculo cumulandi priora recentibus malis? Sunt quædam regiones ubi psora est morbus frequentissimus; atque ibi quoque salutaris esse existimatur. Febris etiam intermittens olim a quamplurimis medicis credebatur esse ministra salutis: et idem etiamnum nonnullis persuasum est. Itaque ejus adventum sibi et amicis gratulantur, et, quantum in ipsis est, cavent ne nimis cito se proripiat. Has quidem opiniones in Anglia jam fere delevert dies; et ubi remedium podagræ haud minus præsens inventum sit, quam quæ ad modo memoratos morbos adhibentur, cognoscemus tandem quam tuto et utiliter morbus quoque articularis in perpetuum summoverti possit.

“Si quis tamen contendat arthritidem esse conatum corporis, quo humores nescio quos corruptos expellat; ad experientiam provocandum



provocandum est, quæ sola erit idonea hujusce litis judex et arbitra. Et fateor nonnullos reperiri qui primo podagræ adventu gaudent, tanquam qui omnia fausta secum ferat; qui nihil jam nisi valetudinem integerrimam somniantes, facile credunt hanc primam accessionem mire profuisse; qui mos est hominum, quoties novos medicos, et novas medendi rationes experiuntur. Sed, his missis, illos consulamus, qui diu et sæpe ex artubus laborarunt, et intime norunt hunc affectum. Inter plurimos quos vidi, quorumque historias literis ut mandavi, minimum dicam, duplo plures sunt in quibus podagra aliis morbis supervenit sine minima eorum levatione, vel in quibus nova mala attulit prioribus; quam quibus profuisse visa est: et, meo quidem judicio, quæ mala podagræ imputata fuerunt, multo certius ab ea profluxerunt, quam quæ bona. Interdum quidem fieri videmus ut alii morbi conquiescant podagra superveniente; quod etiam fit accedentibus febribus, paralysi, asthmate, variolis, et insania, quorum omnium non pauca exempla vidi, licet hos morbos dixerit nemo salutare. Contra morbus articularis sæpe invasit vertiginosos, asthmaticos, fastidientes, et melancholicos, quos adeo non levavit, ut mala eorum multum exasperaverit. Porro hæc omnia in nonnullis ægris simul cum podagra semper accesserunt, et per totum ejus spatium perseveraverunt.

“ Quos arthritidis raro occupat, et deinde brevi relinquit, illi leviter, aut vix omnino læduntur; haud secus ac fit interdum, ut epilepsia, quæ raro accedit, haud impediat quominus epilepticus senectute tandem, potius quam morbo suo, pereat. Veruntamen in nonnullis valetudo a prima usque podagræ accessione perturbari cœpit, et ex illo in pejus ruere, donec prorsus conquassata sit, et plane perditâ. In quibus, licet dubitare possimus, podagra necne fuerit horum malorum causa; de illo tamen certi sumus, quod non fuerit remedium.

“ In vetusta arthritide, quod ante memoravi, dolor mitior esse consuevit, quam in recenti; et hinc forsitan creverit opinio, illam valetudinem ab imminuta ac deficiente podagra oriri, quæ vel ætati ingravescenti, vel aliis morbis, vel repetitis ipsius podagræ accessionibus tantum modo debetur.”

There can be no doubt, that, from the disposition of most medical practitioners to indulge the humours and prejudices of their patients, the former are too ready to proclaim a disease (especially when its nature is not fully known to them) to be gouty: the consequent treatment is so liberal an allowance of wine, aromatics, and stimulants of all kinds, that the most serious, and often fatal, mischief is induced. We can, there-



fore, readily credit the sagacious author's declaration, that he has often seen carious bones, scirrhus and cancer of the brain, chronic diseases of the thoracic and abdominal viscera, and even acute inflammations of the lungs and stomach, aggravated to the most distressing degree, in consequence of being mistaken for gout. We also think, that his example cannot be too strongly enforced, in waiting for as many evidences as possible of the existence of an arthritic affection, before he proceeds to treat any symptom as such; and that, in case the disease should not admit of delay, it will be much more dangerous to omit venesection for the treatment of inflammation, than to perform it for the cure of gout. His long experience, it appears, warrants the belief that gout, in its first attacks, rarely quits the joints for internal and vital parts; and that, even in advanced age, this translation is not so common as is usually imagined. The following remarks occur relative to the diagnostic symptoms of gout, and the affinity of that disease to rheumatism, viz.

“ *Prima accessio arthritidis raro fit longior viginti diebus: tum morbus primo articulo pollicis pedis insidet, vel saltem ultra pedem non transit. Non est perpetuum ut febris, vel languor, vel quævis ægrotatio antecedit; quanquam hoc interdum fiat.*

“ *Locus podagra occupatus saturate rubet, et adeo impense dolet, ut levissimo pondere premi non sustineat.*

“ *Arthritis raro quemquam corripit, quem non intra paucos annos revisit: mox reditus fiunt crebriores, et accessiones longiores; tum quoque priores terminos excedit, et nullam non corporis partem invadit; et quam invaserit debilitat, aut ulceribus fœdat, vel repetitis inflammationibus reddit duram et immobilem.*

“ *Dolores arthritici, relictis artubus, interdum in ventriculum, pulmones, cor, aut cerebrum vertuntur.*

“ *Hi dolores vel nunquam, vel rarissime vexant quemquam ante pubertatem.*

“ *Postremo, qui ex artubus multum laborarunt, posteris suis miseram hanc hæreditatem plerumque transmittunt.*

“ *Hæc mihi videntur signa esse, quæ veram arthritidem indicant; quorum ne unum proprium est æcuti rheumatismi. Nan neque is pedes potius quam alias partes invadit; neque diu in eodem loco manet; verum prima sua accessione universum corpus sæpe pererrat, et interdum menses aliquot perseverat.*

“ *Locus rheumatismo occupatus haud multum dolet, nisi moveatur.*



moveatur. Dum quiescit, non tam angitur et torquetur, quam lassitudinis sensu molesto vexatur.

“ Cutis color si forte mutetur, leviter modo erubescit, non vehementer coloratur.

“ Sæpissime fit, ut quos rheumatismus gravissime cruciavit, quanquam diu postea vivant, in eum nunquam iterum incidunt. Ubi autem revertitur, reditus sunt inordinati, nullis certis temporibus astricti.

“ Rheumatismi acuti dolores rarissime relinquunt musculos, et in viscera transeunt.

“ Denique hic morbus nequaquam parit impuberibus, qui eo interdum graviter laborant; nescio an illi præsertim, qui hæreditario jure futuri sunt arthritici.

“ Hæ profecto, meo judicio, præcipuæ notæ sunt, quibus hi duo morbi discernuntur: sint licet ægroti, in quibus signa arthritidis et rheumatismi adeo commiscentur, et confunduntur, ut haud dictu proclive est ad utrum dolores sint referendi.

“ Hos morbos, cognatos sane, quanquam facies non utrique una, vel multum, vel parum nostra intererit accurate definire, prout ratio eos curandi similis, vel diversa esse censebitur. Plerique autores olim consenserunt remedia arthritidis esse prorsus contraria iis quæ præsentantur adversus rheumatismum. Etenim contendunt calidissima quæque illi convenire; ab hoc omnigena refrigerantia postulari. Sydenhamus sanguinem mittere prohibet in arthritide; quem idem in rheumatismo quater, aut sæpius, copiose detrahendum præcipit. Attamen in iis quæ postea scripsit \*, videtur aliquid remittere voluisse de tantis sanguinis missionibus, quas in uno ægroto non bene cessisse compererat.

“ Usus centum annorum (tot enim sunt a Sydenhami ætate ad hanc nostram) fecit tandem medicos minus confidere purgantibus vehementioribus, et repetitis sanguinis missionibus contra rheumatismum. Et veniet forsitan dies, cum remedia refrigerantia judicabuntur non tam perniciosæ esse in arthritide, neque in rheumatismo tam utilia, quam vulgo feruntur; et proinde morbi utriusque curationes ad se invicem propius accedant. Pulvis Portlandicus præ se fert æque adversus utrumque prodesse; neque negaverim hujusmodi medicamenta, simul cum opio adhibito sic ut opus fuerit, fieri posse præsentissima antarthritica pariter et antirheumatica remedia.”

\* “ Sub finem Epist. Respons. primæ.”



Our readers will be anxious, we imagine, to learn the means of cure recommended by this veteran in medical practice.

“ In arthritide, non solum artus, verum etiam cerebrum, ventriculus, et intestina, sæpe laborant. Fonticuli videntur impedire quo minus cerebrum lædatur. Ventriculo præsidio sunt amara, et quæ alvum leniter movent. Atque horum utilitatem remediorum usus mihi confirmavit.

“ Vinum meracum, multumque, arthriticis valde convenire existimatum est. Quam opinionem crediderim percrebuisse, non tam quia persuasum sit id ita esse, quam quia verum esse optaverint qui vinum amant. Verum isti velim meminerint usum vini largiorem seorsim lædere ventriculum, et concoctionem impedire; tum quoque eos potissimum gignere atque alere morbum articulare, qui vino dediti sunt; dum pauperioribus, quibus aqua est fere unicus potus, cupiditas cibi major est, et concoctio digestioque faciliior, et arthritidis fere incognita. Mihi sane contigit paucissimas videre absolutas et perfectas hujus morbi sanationes: unus autem et alter, qui animali cibo vinoque ex toto abstinerant, restituti fuerunt ex summa debilitate et miseria in valetudinem adco firmam, ut vita non amplius esset vel aliis inutilis, vel sibi ipsis injucunda. Attamen rara nimis sunt hæc exempla, quam ut confidam, vel etiam multum sperem fore, ut aliis liceat esse æque felicibus.

“ Ambigitur invadentine podagræ, quasi victus, manus dare æger debeat, otio et vestibis mollissimis eam excipiens; an summis viribus contendat artus affectos movere, hostemque, si qui fieri possit, excutere. Quo magis indulgetur, eo diutius podagra manet; quod ægris sæpe quidem in votis est; quod etiam medicamentis cupiunt efficere. Nempe in ea sunt opinione, materiam arthriticam in quibusdam corporibus gigni, et indies coacervari; cui nisi debito tempore facilis et liber exitus sit, valetudo omnigenis malis erit opportuna. Alii contra, ducti non tam ratione, quam impatientia doloris, nihil non moliti sunt, ut arthritidem incipientem reprimerent, et in ipsis quasi incunabulis extinguerent. Magnus ille Harveus, circumeuntis sanguinis repertor, ut a propinquis ejus accepi, protinus ut podagram advenientem sentiebat, crus affectum in frigidam immittere solitus est, et eo pacto dolorem avertere. Alios itidem novi, qui podagram incipientem tepore et otio fovere valde recusarunt, ac potius maxima contentione animi, et virium, artum affectum movere, et exercitare, non cessarunt, donec sensim recederet dolor, et potestas movendi reverteretur; id quod tandem consecuti sunt. Neque, quantum scio, hæc morbi propulsatio, vi et armis facta, ullis postea gravioribus



gravioribus malis pensata est. Quantum autem fieri potest ad excutiendam podagram, si quis omnes nervos in eo contendat, declarant historiæ arthriticorum non dubiæ, qui membris omnibus capti, cum movere se prorsus non posse viderentur, metu subito incendii, aut hostium, perculsi, illico obliti sunt podagræ, et satis agiliter se in fugam conjecerunt.

“ Nolle laudare Harvei exemplum, et aliis ad imitandum proponere; quamvis ad octogesimum annum vixerit, et non tam morbo, quam senectute extinetus sit. Tamen non comperi illos ægrotos male sibi consuluisse, qui artum exercitando impedierunt quo minus arthritidis ibi sedem suam figeret. Siquidem accessio podagræ revera sit corporis quædam exoneratio, per quam materia morborum jam summe accumulata foras projiciatur; qui fit, ut medicamentum purgans mox a decensione ejus sumtum, toties fecerit morbum recrudescere, et pari vehementia, ac ante, sævire? Quod ut ita sit, usu cognitum est non mihi solum, sed et aliis medicis quorum auctoritas et est, et esse debet, summa. Idem quoque interdum evenit, ubi membrum ab arthritide jam convalescens, ictu aliquo, aut distortionem, aut etiam culicis punctione, læsum fuerit. Quæ res certe faciunt, ut ægre intelligi possit doctrina de arthriticæ materiæ cumulo, cui hujus morbi accessiones tribuantur.

“ Plerique ex illis, qui fovent podagram, caventque ne quid eam maturius summoveat, sæpe vestiunt artus ingenti pannorum laneorum apparatu, etiam sub cœli temperie calidissima, donec qui antea fuerunt debiles, jam fiunt prorsus immobiles. Hæc multiplicia involucra semper sunt molesta, et, ut mihi quidem videtur, supervacua. Fateor partem quamlibet corporis, ubi dolet tumetque, sensu acutiore esse, præditam, et frigoris minus patientem: verum nulla ideo integra requiruntur, præterquam quæ sufficiant arcendo frigori, si quid offensum sit.

“ Late celebrantur facultates aquarum Bathonicarum ad mala arthritica moderanda. Quæ tamen vulgo perhibentur, satis inconstanter dici videntur, et vires contra podagram his aquis tribui efficaciores, quam aut usus, aut ratio confirmat. Fontes Bathonicæ sine dubio prosunt adversus multa ventriculi mala, et proinde utiles esse possunt arthriticis, quoties vexantur, ut sæpe fit, dolore stomachi, inflatione, acore, aut cruditate. De aliis horum fontium viribus ad excitandam, et moderandam, et sanandam podagram, perdifficilis est, et perobscura quæstio. Nondum compertum habeo has aquas extrinsecus admotas, vel sæviente morbo, vel conquiescente, fuisse



fuisse auxilio. Quin artuum debilitatem balneo Bathonico auctam esse vidi; et multo præsentius fuisse remedium in mare descendere: quod multa me exempla docuerunt.

“ Ubi morbus ex articulis in ventriculum trajectus fuisse judicatur, ibi consuetum est ægrotis, si non ipsis medicis, dolorem, nauseamque, et vomitum levandi spem omnem in vino ponere et potionibus meracioribus. Sed in hoc ancipiti malo, opium et aromata, meo judicio, non solum minus detrimenti secum trahunt, verum etiam sunt auxilia multo potentiora. Opium etiam tuto datur omnibus arthriticis, quoties vigilia, aut dolor urgeat.”

With respect to the Portland powder, once so highly extolled as an *antarthritic* medicine, Dr. Heberden declares his dissent from those who ascribe to it dangerous effects, never having seen any inconvenience occasioned by its exhibition, except the nausea which commonly attends the taking of large doses of any bitter powder whatever. If the cure of gout be desirable, this Portland powder has, in the Doctor's opinion, been unmeritedly neglected, since it possesses considerable efficacy; and the mischiefs that have ensued to some patients, instead of being imputed to the remedy, ought, in strict accuracy, to have been imputed solely to the nature of the disease. To obviate the oppressiveness of the doses, he suggests the propriety of subtracting one or two of the more nauseous and least active ingredients.

(To be continued.)

ART. II. *Historical Surgery; or, the Progress of the Science of Medicine on Inflammation, Mortification, and gun-shot Wounds.* By JOHN HUNT. Quarto, 407 pages. 1801.

THIS work is divided into eleven sections, with a preface. The body of the book is comprised in 407 pages, each containing more than the modern proportion of letter-press, and occasionally copious notes at the bottom. There are not any plates. The author does not assume any title, and by his own account has received his medical education in London about twenty years ago. We presume that he is a country practitioner, following all the branches of the profession, as the mingling of his subjects indicates in the title-pages, as well as throughout his book. The contents of the several sections will be seen by the following transcript.

“ SECTION



“ SECTION I. The Imperfections of the Treatment of Mortification exemplified, by the indiscriminate Use of the Bark at improper Periods of the Disease.

“ SECT. II. The Division of Mortification into two Species, illustrative of the Effects of Bark and Opium.

“ SECT. III. Amputation considered as a Remedy in Cases of Mortification, and the Ambiguity of the public Opinion on this Subject.

“ SECT. IV. The Physiology of the Circulation of the Blood considered as the Basis of the Pathology of Inflammation and its Consequences.

“ SECT. V. The modern Treatment of Mortification in Cases of gun-shot Wounds.

“ SECT. VI. The Distinction between local Inflammation and a phlogistic Diathesis, with an Explanation of the Effects of Bleeding in inflammatory Diseases.

“ SECT. VII. The Principles of topical Bleeding demonstrated, and the Inefficacy explained.

“ SECT. VIII. The historical Evidence of the Effects of the Bark in Cases of Mortification.

“ SECT. IX. The *chirurgical* Treatment of those Diseases which are the immediate Consequence of internal Injury.

“ SECT. X. The medicinal Treatment of those Diseases which are the immediate Consequence of external Injury, illustrated by the Phenomena of analogous Disease.

“ SECT. XI. The operative Part of *Surgery* considered as a Remedy for Disease.”

The writings which our author quotes, and the subjects of his animadversion, are confined to modern times, and to those of our own country. The following list of authors will afford the reader an idea of the extent of these disquisitions, which, together with a few volumes of medical transactions, most probably include our author's library, viz. Doctors Sydenham, Cullen, Mead, Brown, Heberden, and Underwood; Surgeons, Wiseman, Gooch, Douglass, Sharp, Bromfield, Cheselden, Rushworth, Pott, Whytt, Hewson, Hunter, Pearson, Bell, and Earle.

The preface is occupied in an argument upon the connexion between what is called natural philosophy, and the “*sciences of medicine and surgery.*” We cannot flatter our author with any compliments on his success in this attempt.

There seems to be a want of clearness in his language which bespeaks no great profundity in the rules of philosophy, and



the temper of his criticism is too often harsh and abrupt; for example;

“The *mechanism* of animal life forms a distinct system of philosophy.” What can the “*mechanism*” “of life” mean? If he had said the mechanism connected with animal life, or the mechanical apparatus connected with living bodies, we should have entered a little into his view; but the mechanism of a phenomenon usually considered as a principle of itself is wholly incomprehensible.

A considerable part of the preface is also occupied by irrelevant matter, in the way of exemplifying analogies and illustrations from the general science of physics, as they regard medicine and surgery. Speaking of mechanical knowledge, he says, “the want of attention to the *mechanism of Nature* is the original cause of all these practical imperfections; but the *science* of surgery includes a much more extensive field, and the theories both of the practice of physic and surgery are inseparably connected with each other.”

A wider range than usual is taken in this preliminary discourse; it embraces some illustrations from Tooke's View of the Russian Empire, Brooke's Dictionary of the World; and shews the imperfect knowledge which Dr. Mead must have had of the tides, and consequently his errors in applying those analogies in nature to explain the phenomena of diseases. Indeed it would be well if all such loose analogies were laid aside, more especially on subjects in which the interests of mankind are so deeply engaged as in the systems and doctrines of medicine.

The style and matter of this writer are, however, of a manly character, indicating reflection and strength of understanding. As to the verbal imperfections, we would willingly lay them aside, after having apprized our readers of the general tendency of the inappropriate terms, and misapplications already pointed out, and of which a stock like them are to be seen throughout the work.

Section the first begins with a general complaint against the authors who have treated of mortification, for not detailing the points of practice by which the cures are performed. His first object of attack is Mr. Bromfeild, and some inconsistencies are pointed out in a style of acrimony not very becoming. The mode of exhibiting bark, and the stages of the disease in which it is advisable, are also the subjects of severe argument. At the end of this section reference is made to Mr. Sharp's published opinions on the influence of bark in  
mortifications,



mortifications, and Mr. Bromfeild is copiously blamed for not having availed himself of former discoveries. Criticism and blame are, therefore, the only results of this first chapter.

It seems to us that decency would have led an author, so free in his censures, to avoid the same occasions which he condemns in others; we expected that not only the *kind of bark*, but the doses and formulæ for its administration, together with a variety of precautions and rules drawn from the various symptoms of different kinds of mortification, would have closed the section: No; we are tied down to the terms "mortification" and "the bark," without any distinguishing descriptions. What would a foreigner think of such information, whose only aids in the translation might be a medical glossary or a lexicon? He must remain ignorant of our author's subject.

The second section is on "The Division of Mortification into two Species, illustrative of the Effects of *Bark* and Opium.

The writings of Pott, Sharp, and Wiseman, are here collated, and a loose distinction between gangrene and mortification, as employed by Pott, is very properly represented. After agreeing that bark is an effectual remedy for mortification, and opium with it, he adds, "I have examined a number of publications in search of facts, and have met with several instances of mortifications of the toes and feet, where the patients recovered without the *assistance* of opium; and from every kind of evidence, I am as well convinced as I can be of any truth whatever, that great numbers of these cases, if not a majority, would end favourably without the interposition of either bark or opium *to stop* their progress: for which reason, I must give a direct negative to Mr. Pott's assertion, and I have no doubt but the evidence I shall afterwards have occasion to produce will justify my opinion."

Nearly the sum total of this chapter may be comprised in the following passage: "The distinction of the mortification of the toes and feet is an object of considerable importance, both in the science and practice of surgery, and the description both of the disease and method of treatment is plain and intelligible; but with respect to the use of bark in other species of mortification, the whole is embarrassed with doubt and veiled in obscurity." There is certainly much foundation in truth for many of these remarks; but the subject appears to us in no way amended by this mode of treatment.

"Section III. Amputation considered as a Remedy in Cases of Mortification, and the Ambiguity of the public Opinion on this Subject."



Bell's System of Surgery comes now under consideration ; " Pott and Sharp are the only two who have written rationally on (this) subject," and Mr. Bell, it seems, has blundered the first question on the propriety and advantages of amputation ; our author adds, and in this we quite agree, " that it is always improper to amputate a limb when the body is in a diseased state." During the inflammatory stage, and whilst the mortification is actually proceeding, it would, as this writer properly argues, prove not only ineffectual but mischievous to perform an amputation. " In most cases there is a time when nature particularly requires assistance, and it betrays a want of professional knowledge to direct their conduct, when either surgeons or physicians intrude their assistance before it is necessary. In this instance there is a time evidently pointed out, when the operation should take place ; and that is, when the patient has recovered as much as possible from the debilitating influence of previous disease, and before he begins to sink again in consequence of the discharge from the parts, where *Nature* is effecting a separation." Page 44. This is all so obvious, and to us so universal as practical doctrine, that, with the exception of Mr. Bell, we could not have thought it worth a long argument.

The fourth section begins with a philippic against Mr. Hunter's doctrines in his Treatise on Inflammations and gun-shot Wounds. Our author says, he has no occasion to repeat the experiments to prove the fallacy of these hypotheses. As usual, the weapon called argument is employed to sweep away all the facts and theories of John Hunter ; one would have rather expected that a *philosopher* of such high pretensions might have paused a moment over the amusing speculations of Hunter, whether they be well founded or not ; we are, however, hurried on, and told that " his *arguments* are unconnected, and his theory must be set aside as unworthy of attention."

The quills of modern writers run so fast, that we confess ourselves quite incapable of keeping pace with them ; writing becomes so closely connected with sweeping, that we often doubt which end of the quills is most serviceable : whatever such critics may please to think of J. Hunter's labours, the philosophical world and the scientific practitioner of medicine are disposed to rank him very high indeed among the benefactors of this age ; not only as a great naturalist and a great observer, but as an ingenious speculator on those unillustrated parts of nature, which are only to be rendered intelligible by experiments and observations suggested by even hypothetical reasoners. This

writer



writer does not, perhaps, know how much the sciences are indebted to Bacon for having thrown out a number of crude guesses, and for giving hypothetical accounts of phenomena which called for the evidence of facts to determine them. We are sorry to add, that we conceive our author to have got hold of the wrong end of his pen in this chapter, for want of knowing the value of that which he so unbecomingly condemns. Because Malpighi, Leewenhoek, Hewson, and Hunter, have differed in their opinions about the form and other appearances of the globules of blood; because Swammerdam did not investigate the subject properly; and because Cheselden has given plates of figures larger than the field of certain microscopes, our author doubts the whole history of globules, and concludes, "But I am perfectly satisfied without repeating them; and though my taste may be called in question, yet I must candidly acknowledge the want of relish for this species of philosophical investigation." Thus, Sir, you, who have so often repeated the words "*philosophy*" and "*science*," (however inaptly,) profess to shut the eyes of your body and your mind against what other men have esteemed the greatest instrumental helps in our inquiries into the structure and the organization of all living bodies. The microscope is a new organ of sense, empowering man to discern forms and parts which must, without that instrument, have remained unknown. Without even pretending to any knowledge from experience, but on the flimsy ground of literal misapprehension, or what is termed argument, all the illustrations concerning the vascular system, the powers which Mr. Hunter has proved to belong to elasticity and to muscularity, are made the subjects of a dispute, in which nothing but wordy assertions are opposed to clearly-proved facts. These are subjects of too great moment to be settled in the way of an argument, without fairly combating fact against fact. The results are the sources of doctrines which give to the medical art some resemblance of a science; they afford the best and only safe grounds on which a practitioner can reason beyond the extent of his experience; and this is what every physician and surgeon is constantly required to exert. Mr. Hunter's opinions, as conveyed in his *Treatise on Inflammation and gun-shot Wounds*, however ill executed as to arrangement and language, will long continue to be esteemed the productions of deep research and of an acute genius.

"Section V. On the modern Treatment of Mortification in Cases of gun-shot Wounds."



The opinions delivered in Dr. Underwood's Surgical Tracts, Mr. Pott's *bark* and opium, and distinctions of morification, are again called up, and these mingled with Mr. Hunter's doctrines, where they do not bear any reference. The former are downright practical observations, the latter are general physiological doctrines.

The chapter concludes, "Let us now consider that Mr. Hunter was at the head of the profession, that his Treatise on the Blood, Inflammation, and gun-shot Wounds, is the latest and most extensive work on this subject that surgery has to boast of; and as, in addition to a multiplicity of other arguments, it still remains a question, in what manner, and under what circumstances, bleeding, purging, bark, and opium, should be made use of, and whether warm or cold applications have the preference; I hope I have satisfactorily proved what I first asserted, that there is no established method of practice, or public opinion on this subject." Page 117. Be it so: why then make the confusion greater?

The criterion for repeating bloodletting in inflammations is the sily blood; and it is especially recommended in erysipelas, acute rheumatism, in all inflammations of membranes, and of the viscera; but when "inflammation takes place in consequence of injury to external parts," it "does not produce sily blood, and consequently requires a different method of treatment."

Now we "London practitioners," however faulty in the opinion of this writer, are induced, both by theory and practice, to avoid bloodletting in erysipelas, (generally speaking,) and are always disposed to empty the vascular system after extensive injuries to external parts, viz., bruises, in order to prevent the well-known ill effects of high inflammation.

Dr. Heberden having asserted, that the sensible qualities of the blood have little relation to diseases, and Mr. Hewson having stated an opposite opinion, these become the grounds of argumentation. The dogmas of one author are made to fight those of another, whilst this umpire looks on to decide which has got the better; he seems to think it unfair to put in a blow, and leaves the reader, who is absent from the scene of action, to take his word for the events.

Sorry indeed as we should be to deserve the censure of unqualified severity, we are still less willing to leave any part of the duty, which, in truth, as critics, we are engaged to fulfil, by passing over such reprehensible proceedings as these. We  
are



are at a loss to discover the advantages accruing, either to the student or the practitioner, by mere controversial writing; and too much of this book is employed in that way. The author has great merit for his shrewdness and his judgment on many topics; but on others he does not seem at home: neither is his language of that style and correctness which shews the philologist and the logician; two characteristics, we will venture to affirm, indispensably expected in all such writings at the present period.

The seventh section treats of "topical Bleeding;" and it is there argued, that cupping and leeches do not prove more serviceable in local inflammatory affections than bleeding from the system. The practice of every medical man affirms the contrary; and, for the sake of those who read this chapter, we would ask the author, Whether, in all stages of debility with local inflammations, he would practise bleeding from the arm? whether he would not spare the infant and the aged in such situations? and if with the same impunity he bleeds from the system in the case of an emaciated artisan, a dram-drinker, or a debilitated frame proceeding from any other cause? On the subject of opening the temporal artery there is much good doctrine; it is (as generally practised) an inefficacious, irrational operation; it can only be performed twice on the same person, in common; and then it obliterates the vessels it was intended to empty. The theory of the *circulation* of the blood is adduced against the system of topical bleeding, and on this general doctrine all the exceptions are overthrown. Our author forgets his practical anatomy; he, perhaps, does not remember, that deep-seated arteries often communicate directly with superficial veins; and, for want of this recollection, he imprudently concludes, "but so long as topical bleeding may serve to *decorate* a physician's prescription, to *amuse* the patient, or *impose* on his friends, to *procure* a fee to the surgeon, or *add a charge* to the apothecary's bill, it is certain to be supported, in opposition to all the arguments that *reason* and *philosophy* may advance against it."

On the historical evidence concerning the efficacy of *bark* in mortifications, this writer has been pleased to compare his documents with the "glorious uncertainty of the law." Details are copied from almost all the authors which we have enumerated, down to the formulæ of their prescriptions. Opposing assertions are quoted; and out of this jarring mass a conclusion results, viz. that in most, if not all the cases of mortification, said to have been cured by bark and opium,  
the



the disease "terminated spontaneously" by means of constitutional powers. "If these writers were so unfortunate, first to impose upon themselves, as I think it impossible that such a system of confusion could have been formed by design, it would be difficult to conjecture by what magic art the delusion was transferred to the public at large; and for my own part, I should never cease to wonder, if *I had not previously examined the DARK history of human nature*, and was well convinced how much the world was gratified by *imposition and deceit*." Page 200.

On the chirurgical treatment of diseases, the consequences of external injury, our author considers the simplest remedies the most rational; he recommends very prudent measures in the treatment of fractures and external wounds; he prefers warm applications in fractures, dislocations, &c. to the cold ones. In this section we find more of practical information than in any of the former. A satirical observation on the frontispiece to the Bath Guide ends the section.

On the treatment of gun-shot wounds, some little chirurgical advertisements are brought to face each other. Mr. Blizard's published Lectures are quoted, and some good letters from Mr. Christie, whose practice somewhat opposes the former. We then meet with a philippic against London surgeons. The Brunonian, Cullenian, and Hunterian hypotheses are discussed, and we find many interesting narrations.

The concluding section is on "the operative Part of Surgery, considered as a Remedy for Disease."

The operative part of this profession is held forth as the criterion of ability or ignorance among surgeons; but, to make an "accomplished operator," both the *art* and *science* of surgery must be united." The opinions of Wiseman, Sharp, Pott, and Hunter, are collated relative to the expediency of amputations in compound fractures, gun-shot and other contused wounds. The undecided practice in the present day, as to early amputation, or the endeavour to save the limb under certain circumstances, is judiciously canvassed; and the objections of Bilguer and Tissot, against amputations generally, are ably refuted.

It is well known that Mr. Hunter advised deferring amputations in cases of gun-shot wounds until the first effects of inflammation have subsided, until the patient's mind becomes reconciled to his misfortune, and his constitution has become inured to pain. But these considerations, although obvious, because perhaps of their familiarity with us, are not equally



so with this writer; he professes not to comprehend them. The occurrence at a London hospital when this author was a pupil, is continually cited as an argument in favour of early amputation. It was a difference of opinion between two surgeons, when the junior in a disrespectful manner opposed the operation on a patient who afterwards died.

The remarks on applying the tourniquet are judicious, and worthy every surgeon's attention. The needle is preferred to the tenaculum, only because it appears to be a more suitable instrument in this gentleman's hands; but every practitioner must have noticed the saving of muscle, cellular membrane, and occasionally of nerves, made by using the tenaculum; and these are necessarily enclosed by the ligature made with a needle. The consequent increase of pain, inflammation, and sloughing, in those parts, affords sufficient reason for preferring the latter, when the apertures of the vessels are visible and can be drawn out.

The finale is a rhapsodical invitation to the defenders of our country to turn with indifference from the "enemy's destructive sword," to "the surgeon's friendly knife!" and the surgeon is exhorted to amputate before the first inflammation commences. With so much to blame, in which we own ourselves to have been very free, there are in this work several points worth every one's notice; but we should have liked it far better in an octavo form, curtailed of all that professional spleen which is but too prevalent.

ART. III. *The Anatomist's Vade-Mecum; containing the Anatomy, Physiology, morbid Appearances, &c. of the human Body, the Art of making Preparations, &c. The fourth Edition, revised and enlarged.* By ROBERT HOOPER, M. D. F. L. S. Small octavo. 322 pages. 1802.

THE first edition of this work was noticed in the second volume of our Review; it was a short manual, containing as heads the different divisions of the various parts of the human body. In the present form it is rendered much more comprehensive and useful, being now an abridgment or compendium of anatomy, in which the various parts are described in a short and perspicuous manner, with the general physiology and morbid appearances annexed. It is preceded by a short history of the science, and concluded



cluded by a very distinct account of the art of making anatomical preparations, and an explanation of anatomical terms.

As a specimen of the work we shall insert, in the author's own words, the description of the liver.

“ THE LIVER is the largest of all the abdominal viscera ; it is of a deep red colour, and situated in the right hypochondriac region, and somewhat in the epigastric, hanging by its ligaments from the diaphragm.

“ The liver is convex above and concave below ; it is extremely broad superiorly, but gradually becomes thinner inferiorly, and ends in a thin margin. Its surfaces are smooth, being covered by the peritoneum, which forms its several ligaments, viz. two which are attached to the diaphragm and are termed *lateral* ; in the middle of its lower and anterior margin is a *round ligament* adhering to the navel, through which the umbilical vein, &c. of the foetus passed : between the round ligament and the diaphragm is another, called the *suspensory ligament*, which adheres to the peritoneum of the anterior part of the abdomen.

“ DIVISION. Into three *lobes*, one of which is very large, the other smaller, and a third, which is very small, and called after its describer, *Spigelian*, or *lobulus Spigelii*.

“ SUBSTANCE. The liver is a gland composed of arteries, veins, nerves, lymphatics, and excretory ducts, united together by a particular substance : there is also an appendage on the concave surface of the liver called the gall-bladder.

“ The *artery* of the liver is the hepatic, which nourishes it : the blood it conveys does not appear to contribute any thing towards the formation of bile. It is returned into the *venæ cavæ hepaticæ*.

“ The *vena portæ* is a large vein which conveys the blood from the spleen, mesentery, and stomach, into the liver. As it enters the liver it receives a strong tunic, which is termed the capsule of Glysson, and divided into innumerable branches, which, at their very minute ends, form an immense number of vessels, arranged like the hairs of a pencil brush, and hence called *penicilli*. These penicilli constitute the glandular fabric and bulk of the liver. From each penicillus arises a small duct which runs to a larger ; this again unites with others, till at length they form vessels of a considerable size, which ultimately end in one duct. The smaller ducts are termed *pori biliarii*, and its trunk *ductus hepaticus*. The small branches of the *vena portæ* open also into corresponding veins, which gradually become larger, and return the blood into the *vena cava*



cava at the superior part of the liver: these are called *venæ cavæ hepaticæ*.

“ From this description of the substance of the liver, the physiology of its functions may be explained. The liver is destined to separate bile from the blood. The blood is brought for this purpose by three large venal trunks from the stomach, omentum, spleen, large and small intestines, which three trunks become one; the *vena portæ*, which conveys the blood to its penicillated ends, which penicilli, or glands, separate bile from it; and the bile passes into the beginnings of the *pori biliarii*, and along them into the *ductus hepaticus*. The blood which is not wanted for this purpose, and that from which bile has been separated, then passes into the *venæ cavæ hepaticæ*; so that the *vena portæ* takes on the action and function of an artery, and, like an artery, its branches gradually become smaller.

“ The *nerves* of the liver are very numerous, arise from the hepatic plexus, and go into the substance of the liver with the hepatic artery.

“ The *absorbents* of the liver are superficial and deep-seated; the former are always seen very beautifully arborescent on the peritoneal coat; they pass through the diaphragm, and over the gall-bladder to the thoracic duct.

“ DISEASED APPEARANCES. Inflammation of the peritoneal coat—general adhesions—partial conversion into cartilage—ossification—abscess between the peritoneum of the liver and integuments—inflammation of the liver called *hepatitis*—abscess—mortification—tubercles of several kinds—morbid flaccidity—morbid firmness—general contraction—hydatids—cysts containing calcareous matter—worms in the *pori biliarii*.”

ART. IV. *Medicinæ Praxeos Compendium, Symptomata, Causas, Diagnosin, Prognosin, et Medendi Rationem, exhibens.* Auctore E. G. CLARKE, M.D. Collegii Regalis Medicorum Londinensis, Dispensarii Occidentalis, nec non Exercitus, Medico. Editio secunda, plurimum aucta et emendata. Duodecimo. 244 pages. Londini. 1801.

THIS compendium presents us with a neat and accurate account of diseases, according to the arrangement adopted by



Dr. Cullen in his Nosology, and may be highly useful to such as are about to submit themselves to the ordeal of a Latin medical examination. In his descriptions the author adopts, where he can, the language of Dr. Cullen's definitions, and adheres, in the other parts of his work, to the very accurate and perspicuous account of diseases given in the First Lines. In the treatment he does not omit noticing such articles as have been lately introduced into medical practice. We shall annex, as a specimen of the language and nature of the work, the symptoms, causes, prognosis, and cure of a tertian, which is the first disease noticed, and comprehends in its history, according to Cullen, the principal phenomena of febrile diseases.

## “ TERTIANA.

### “ SYMPTOMATA.

“ Stadium primum oscitatione, pandiculatione, lassitudine, debilitate, habitus externi extenuatione, dorsi, digitorum apicum dolore vel molestiæ sensu incipit; hæc subsequuntur rigor, horror, frigorisque sensus in dorso primum tunc in corpus totum quando revera magis calet; nausea, vomitus, capitis, lumborum, artuumque, dolor comitantur; respiratio difficilis fit et anxia, pulsus citatus, debilis ac parvus, et urina limpida; frigore gradatim recedente excipit stadium alterum; calor urget intensus, pulsus fit plenus, validus atque durus, respiratio magis libera sed anxia; superficies rubra et turgida; lingua alba, sicca; sitis magna, capitis dolor immanis, nonnumquam etiam delirium, comitantur, et urina rubella demittitur; ægro fere exarescente stadium tertium incipit, sudor erumpit copiosus, urina sedimentum lateritium deponit; restituuntur omnes secretiones, sublevantur symptomata et sudore cessante omnino tolluntur, debilitatis solummodo sensu manente. Paroxysmi sunt similes intervallo quadraginta octo circiter horarum et accessionibus meridianis: intermittentes in vernaes et autumnales sunt interstinctæ.

### “ CAUSÆ.

“ Debilitas; effluvia ex paludibus vel agris humidis exhalata, atmosphaera humida; frigus externe admotum et contagium.

### “ PROGNOSIS.

“ Symptomata fausta sunt, paroxysmi regulares non supra horas duodecim perdurantes; pustulæ morbo decedente circa labia erumpentes; urina sedimentum deponens: infausta sunt,  
coma,



coma, delirium, anxietas magna, tonsillarum tumor, alvus pertinaciter astricta, hypochondrii et epigastrii paroxysmo durante tensio et dolor; cibi aversatio vel debilitas vertigine in intermissionibus comitata; macularum crebra eruptio urticationem referentium.

“ CURA.

“ Primæ viæ lenibus emeticis et catharticis sunt purgandæ, et in intermissione tonica præcipue cinchona; amara; astringentia largis dosibus sunt administranda; si hæc nihil valeant arsenicum; zincum vitriolatum: finis paroxysmo imponatur si datum sit emeticum in gradu frigido, vel opii dosis plena in gradu calido: si adsit diathesis phlogistica venæ sectio; si magna superveniat debilitas diæta nutrienda est utenda: si coma vel delirium epispastica, cardiaca. An arteriarum femoris et brachii compressio?”

ART. V. *Elements of Chemistry.* By J. MURRAY, Lecturer on Chemistry, Materia Medica, and Pharmacy. 2 vols. Octavo. 332 pages. 1801.

THE author of this work is a teacher of chemistry in Edinburgh, and, if we may be allowed to form a judgment of his abilities from the specimen before us, he seems to be well qualified for the task he has undertaken; at least so far as a clear and distinct knowledge of the subject goes. The present publication, he informs us, is an outline of his lectures, and was published principally with the design of facilitating the study of the science to those to whom the lectures are addressed.

The greater part of the first volume is taken up with the examination of what may be called the grand principles of chemistry, particularly the laws of chemical attraction, which are the foundation of the science, and the effects of caloric, the most powerful agent of the chemists: and this we were by no means displeased to see; for if the student be made to comprehend these fundamental principles thoroughly and distinctly, he will easily conquer the remaining difficulties.

In the first chapter, the author describes the chemical operations and apparatus. The subject of the second is chemical attraction, or affinity; a subject to which too little attention is paid by teachers of chemistry, but which our author has treated very fully and distinctly. In speaking of the cause of chemical attraction, or the power by which the union of two different



different bodies is effected; he observes, that we are indebted to Newton for a satisfactory solution of the question. "After having demonstrated the laws of gravity, and shewn their application to the sensible motions of the universe, he observes, that there might be other species of attraction which reach to such small distances as to have escaped observation. At the end of his treatise on optics, he reviews a great number of chemical phenomena and actions, and applies this principle to their explanation. When two bodies unite, this he conceives to be owing to an attraction exerted by the particles of the one to the particles of the other, by which they are brought together: when they refuse to unite, it is because no such attraction exists; and when a compound is decomposed by the addition of any other body, it is in consequence of that body exerting an attraction to one of the principles of the compound stronger than that which existed between them. These explanations were so much superior to the crude notions formerly entertained by chemists upon these subjects, that they were generally received. The laws regulating the exertion of chemical attraction have since been investigated by the most celebrated chemists."

He next proceeds to the consideration of the laws of chemical attraction; and on this subject he has adopted nearly the arrangement and reasoning of Berthollet, and he could not, in our opinion, have followed a better path. The fifth law, which is a very important one, is well illustrated:

"**LAW V.** In the greater number of bodies, there are certain limits to their combinations with others; in other words, there are certain proportions in which they combine with each other.

"This law comprehends several varieties of combination.

"1. There are many bodies which will combine together in only one proportion; and if an excess of either ingredient of the compound be added, it will either be merely mixed with it, or collected apart from it, with its properties unchanged. Hydrogen and oxygen in their union afford an example of this kind.

"2. There are other cases in which two bodies will combine together in two proportions, in three, or even in four; each of these combinations producing a compound distinguished from the other by peculiar properties. Thus oxygen unites with azot in not less than four proportions, each proportion forming a different compound. This peculiarity of combination



combination is highly important; the immense variety of properties in the products of the vegetable and animal kingdoms, being chiefly derived from slight differences in the proportions of the few principles of which they are formed.

“ 3. In certain circumstances the combination is unlimited to a certain extent; one body may combine with another in any proportion until a certain quantity of it is combined; but beyond that quantity the capability of combination ceases. The solutions of salts in water afford examples of this kind. Any portion of salt, to a certain quantity, combines with the water; but more than that quantity cannot be dissolved.

“ Lastly, there are cases of combination apparently unlimited, two bodies uniting in every possible proportion. Alcohol and water, or sulphuric acid and water, afford examples of this kind; they unite in whatever proportion they may be mixed together, and the compound has always a specific gravity different from the mean specific gravity of the fluids combined.

“ Of some of these classes of facts Guyton (late Morveau) has given a different statement, which seems to be generally admitted. He supposes, that any two bodies are capable of combining only in one precise proportion; but the compound which is thus formed may farther combine with a new quantity of one of its constituent parts, and this may be carried to the length of two, three, or four successive combinations. All the compounds, therefore, which were formerly considered as combinations of bodies in different proportions, are supposed to be successive combinations of the compound formed, with new quantities of one of its ingredients.

“ This opinion applies with facility to those cases of combination in which bodies unite in two, three, or perhaps four combinations; and with respect to many of these, it is probably just. But in those cases where combination is unlimited, as in the union of acids, or of alcohol with water, it is impossible to conceive how the combinations can succeed each other in the manner which Morveau has supposed.

“ The limitation of combination, which has been noticed under this law, forms what is termed, in the language of chemistry, saturation. When one body has combined with another in the largest possible proportion, it is said to be saturated; and the precise proportion in which they have thus combined is termed the point of saturation.”

In explaining the seventh law, the author differs from the celebrated Guyton; this law is as follows:

“ LAW



“ **LAW VII.** Chemical attraction may be exerted at the same time between more than two bodies, so as to bring them into combination.

“ Nature presents us with a great number of compounds, especially in the animal and vegetable kingdoms, consisting of three, four, or even more simple substances; and art can also effect combinations in which there are three or four elementary substances united. In such cases, it is conceived that the attractions are mutually balanced; and it is observed, that such combinations generally take place between those bodies in which the different attractions are nearly of the same force. Compounds of this kind are termed ternary, quaternary, &c. according to the number of their principles.

“ On this subject Morveau has advanced an opinion similar to that which he entertains respecting the union of bodies in different proportions; he conceives, that when several bodies are mixed together, and one apparently homogeneous compound is produced, they do not all directly combine; but two of them first unite, and the compound they form combines with the third; as this new compound may again combine with a fourth, if it be present. In confirmation of this opinion, it is observed, that very frequently, if two of the bodies be first combined, and then the third be added, the same compound is produced as when they are all directly mixed. This, however, is by no means always the case; and there are even some facts, particularly the solutions of two or three substances in the same fluid, of different salts in water for example, which are unfavourable to this opinion.”

The nature of reciprocal attraction is well illustrated. “There is,” he observes, “a peculiar case of chemical decomposition, formerly regarded as anomalous, which may be noticed under this law; it is what has been termed reciprocal attraction; it is that case in which a compound is decomposed by the addition of a third body, and yet the principle disengaged is capable of reacting upon the compound, so as to decompose it again, and form a quantity of the original substance. An example will illustrate it. If sulphuric acid is poured on the compound termed nitrat of potash, it decomposes it by combining with one of its principles, the potash, and disengaging the other, the nitric acid: but if this nitric acid be again digested on the compound of sulphuric acid and potash, it decomposes it, and a quantity of nitrat of potash is found to be formed. Still there can be no doubt that the attraction of sulphuric



sulphuric acid is much stronger than that of nitric acid to potash; how therefore is the latter decomposition produced?

“Bergman, by an admirable explanation, has removed this apparent exception to the uniformity of the laws of chemical attraction. He observes, that potash can combine with sulphuric acid in two proportions, one in which they are mutually saturated, and a perfect neutral salt is formed, another in which the acid is in excess, and which may therefore be considered as a compound of the neutral salt with a fresh quantity of sulphuric acid. When the nitric acid is added to the sulphat of potash, there are two conspiring affinities; the one that of the nitric acid for potash, the other that of the sulphat of potash for an excess of sulphuric acid; and these being superior to the bare quiescent attraction between the sulphuric acid and the potash, the decomposition is effected. The proof that this explanation is just, is, that whatever quantity of nitric acid be added, not more than a certain quantity of the sulphat of potash, about one third, can be decomposed; because when the two thirds of the neutral salt acquire the fresh quantity of the sulphuric acid, there remains only the simple attraction of the potash to the nitric acid, which is unable to effect the decomposition. Another decisive proof of its justness is, that the nitric acid has no effect on the same compound of potash, with an excess of sulphuric acid.”

What is termed “disposing affinity,” furnishes another apparent exception to the uniformity of force with which chemical attraction operates. This, likewise, is well illustrated.

“Predisposing affinity,” the author observes, “is that case in which two bodies are incapable of uniting, but in which the combination is effected by the addition of a third body, though it has no apparent attraction to either of the others, or at least none which, by any obvious operation, can facilitate the union.

“This will be better illustrated by example. Water is a compound of oxygen and hydrogen; phosphorus has an attraction to oxygen, but not sufficiently strong to enable it to decompose the water; but if the phosphorus be combined with lime, it decomposes water rapidly, by attracting its oxygen. Iron, in like manner, has an attraction to oxygen; but so little superior to that of hydrogen, that it is unable to decompose water at a low temperature, or at least the decomposition is very slow; but if a small quantity of sulphuric acid



acid be added, it immediately commences with great rapidity. In the one case the lime, in the other the sulphuric acid, is said to exert a disposing affinity. The explanations that have been offered of the nature of this operation are unsatisfactory, some of them absurd. The term, however, of disposing attraction may be retained, as the expression of the general fact, which is unquestionable, that chemical union between two bodies is often facilitated by the addition of a third, which exerts no apparent attraction to either that can influence the result. When the nature of this action is discovered, it will be expressed with more precision as a particular law, or it will be reducible to some of the other established laws of attraction."

After having explained the laws of chemical attraction more fully than is generally done in a syllabus, he next proceeds to the consideration of the effects of caloric. His account of the effect of heat in expanding bodies, the construction and graduation of thermometers, and also his theory of fluidity and vapour, seem to be an abstract of Dr. Black's Lectures.

In speaking of the difficulty with which bodies in an aerial state combine, the author offers the following explanation:

"Although the attraction of aggregation, which is so powerful in counteracting the exertion of chemical attraction, is entirely overcome in bodies existing in the gaseous form, yet, contrary to what we should expect, we find in them no great facility of combination; on the contrary, as has been observed in treating of the influence of caloric on chemical attraction, they combine in many cases with difficulty, and only at a very high temperature. How are these circumstances to be explained?

"The cause of the first singularity, the difficulty of combination between bodies in the aerial form, is probably the great distances at which their particles are placed. Each solid particle in a gas is undoubtedly placed at a considerable distance from the others, by the repulsive power of caloric: when two gases, therefore, are mixed, the particles of the one must remain at a distance from those of the other; and as chemical attraction is exerted only within a certain distance, no combination can take place between them. Hence we find, that in the vapours the facility of combination is much greater than in the gases, because in the former the particles are less separated, and there is beside a perpetual tendency to condensation; that even amongst those of the permanent gases between which a strong chemical attraction exists, the repulsive



sive power is overcome, and the particles brought into union; and that a union is in general more easily effected between a gas and a body in the fluid or solid form, than between two gases, since the particles of the one, being less separated from each other, may be brought more nearly in contact with those of the other, and therefore any attraction existing between them may be more effectually exerted."

He next proceeds to the consideration of a question more difficult to be solved, viz. How does the introduction of more caloric operate in effecting the combination of bodies in the gaseous form? Of this he offers an ingenious explanation, which is similar to that given by Dr. Higgins. "Two gases may," he observes, "be mingled together without shewing any tendency to unite; but if a spark be introduced into the mixture, either from an ignited body, or from electricity, their combination takes place with rapidity. Yet, by such means, we should rather suppose, that a greater expansion would be produced, and the particles separated to greater distances.

"Is the following hypothesis adequate to the solution of this difficulty? When a spark is introduced into the mixture of two gases having an attraction to each other, the point on which it falls is immediately heated to an intense degree; whence an expansion, proceeding from that point as from a centre, is produced; and this expansion, by the pressure it must occasion on the surrounding particles, will cause them to approximate, and thus to unite. The whole effect is instantaneous, and it is upon the sudden operation that it depends. Were the caloric to be slowly introduced, the expansion would be slowly extended over the whole mass, and would be equal throughout; the particles, therefore, would be still farther separated: but a single point being merely heated to a high degree, while the surrounding particles remain at their usual temperature, the expansion from the former must suddenly press upon the latter much more quickly than the temperature can be communicated. These, therefore, instantly approximate within the verge of chemical attraction, and thus the union must be effected. After it has taken place, more caloric is rapidly, but successively, extricated by the combination itself, which will of course produce a similar effect on the remaining mass till the combination is completed. There are some gases, however, from the union of which so little caloric is extricated, that the introduction of a single spark is insufficient, and therefore a stream of sparks must be kept up."



In speaking of the conducting power of bodies, the author seems rather inclined to defend the now exploded opinion of Count Rumford, that fluids are absolute non-conductors of heat; but since the publication of this work, he has given an account of some experiments in Mr. Nicholson's Journal, which, as well as those of Dr. Thomson, prove the fallacy of this opinion. That the propagation of heat downwards must, in fluids, be extremely slow, no person, we apprehend, ever doubted; for whenever a fluid is heated in any part, the specific gravity of that part will be diminished; it will therefore be forced upwards, and its place supplied by the colder and heavier fluid, which descends; and this theory, which is as old as the days of Archimedes, is all that is proved by Count Rumford's boasted experiments.

The author next examines, with much ingenuity, the various arguments concerning the radiation of caloric, which has been shewn to take place by the experiments of M. Pictet and Dr. Herschel, and draws a conclusion unfavourable to the hypothesis of Dr. Hutton, that light and caloric are the same: he thinks, that the peculiar, invisible calorific matter, which has been found by the experiments of the above-mentioned philosophers to be emitted in right lines, from heated bodies, and which is also present in the solar rays, is rather caloric than light, since its properties are more analogous to those of the former than those of the latter.

Another curious fact was discovered by Pictet respecting the transmission of caloric, viz. the apparent radiation of cold. When, instead of a hot body, a mattrass full of ice or snow is placed in the focus of one of the reflecting mirrors, the thermometer in the focus of the other immediately falls, and ascends again whenever the cold body is removed.

“ This phenomenon,” the author says, “ may be explained on the supposition, that from every body, at every temperature, caloric radiates, but in less quantity as the temperature is low; so that, in the above experiment, the thermometer gives out more caloric by radiation, than it receives from the body in the opposite focus, and therefore its temperature falls; or, as Mr. Pictet has supposed, when a number of bodies near to each other have the same temperature, there is no radiation of caloric, because, in all of them, it exists in a state of equal tension; but as soon as a body at an inferior temperature is introduced, the balance of tension is broken, and caloric begins to radiate from all of them till the temperature of that body is raised to an equality with theirs. In the



the above experiment, therefore, the placing the snow or ice in the focus of the one mirror causes the radiation of caloric from the thermometer, and hence the diminution of temperature which it suffers."

The next subject which engages the author's attention, is a very important one; the comparative quantities of caloric which bodies contain. He describes the different methods used by Dr. Crawford to ascertain this by mixture, and of Lavoisier and Laplace by the *calorimeter*. In noticing this last method he observes, that "it has been found, however, that this method of discovering the capacities is likewise liable to errors, particularly from the influence of the temperature of the atmosphere, from part of the water produced being retained in the pores of the ice by capillary attraction, and from the temperature not being uniform through the whole apparatus; so that the two opposite processes of freezing and thawing sometimes go on at the same time. It is, therefore, very doubtful whether the results which have been obtained from it are more accurate than those from the more simple mode of mere mixture."

After describing very clearly the phenomena which take place with respect to caloric when bodies change their form, the author proceeds to examine the different theories which have been proposed to explain these phenomena. It has been supposed by the French chemists, that when a solid body was converted into a fluid, or a fluid into a gas, the heat which disappears becomes chemically combined with the body, and occasions its change of form: Dr. Irvine, on the contrary, considered the absorption of caloric, not the cause, but the consequence of the change of form, from the capacity of the body being enlarged. The author is inclined to adopt the latter opinion; its principle, that a change of capacity takes place, is, he observes, established by experiment, and it accounts satisfactorily for the phenomena.

"That the absorption and latent state of caloric which take place in liquefaction and vaporisation are fully accounted for by the supposition that the capacity is increased, cannot be doubted. If any body have a certain capacity, and if by any means the capacity be increased, nothing can be more evident than that a proportional absorption of caloric must take place, which will not cause the least increase of temperature. If, therefore, in fusion and vaporisation an increase of capacity does take place, the phenomena which ought to be produced are precisely those that are actually observed.



“ That there should be such a change is *à priori* extremely probable; for since, as there is reason to believe, the capacities of bodies depend on certain situations of their minute particles, it is a probable inference, that when the form of a body is altered its capacity will also be altered; and as rare bodies have in general greater capacities than those which are more dense, there is some reason to presume, that the capacity of the fluid will be superior to that of the solid, and that of the vapour or gas to the capacity of the fluid.

“ This conclusion is established by experiment. Dr. Irvine found, that the capacity of water is greater than that of ice by one tenth, and Dr. Crawford states the capacity of aqueous vapour to that of water as 1550 to 1000.

“ It has been objected to this opinion, that if the absorption of caloric be not considered as the cause of the change of form, no adequate cause is pointed out. The reply is obvious, that the change is owing to the body being expanded to a certain degree. The particles are separated to certain distances, the force of the attraction of cohesion by which they are held together is diminished or overcome, a new arrangement of its particles takes place, it passes into the fluid or aërial form, and the state in which it now exists is such, that more caloric is contained in it at a given temperature, and therefore, to preserve that temperature, a quantity must be absorbed.

“ The general question would be unequivocally decided, were it possible to determine whether the change of form precedes the absorption or extrication of caloric, or whether the reverse be the case; but this cannot be directly determined, since the two are simultaneous. It is probable, however, from some considerations, that the effect of the reduction of temperature is first to change the form, and that the extrication of caloric is the consequence of this. Thus it is evident, that the effect of the reduction of temperature is to cause the particles of the body to approximate more closely; by this approximation, carried to a certain extent, the form of the body may be changed, and then the extrication of caloric will take place. We find even that the form of a body may be reduced by a cause which must act in this manner. By mere pressure it is possible to reduce the vapours to the fluid form. This pressure, it is evident, can have only a mechanical effect on the vapour; it must merely occasion a change of form, by causing an approximation of its particles, and can have no effect in separating caloric, were it chemically combined.

“ Some



“ Some have imagined, that the permanent gases afford a more unequivocal example of the chemical combination of caloric, since they cannot be reduced to the fluid state; but it has already been shewn, what Lavoisier demonstrated, that these gases differ from the vapours, not in the combination of caloric being more intimate, but merely in their gravitating matter assuming the gaseous form at temperatures lower than that which art has yet produced.

“ From these facts the conclusion may perhaps be drawn, that the absorption of caloric which accompanies liquefaction and vaporisation is owing, not to its entering into chemical combination, but to the enlarged capacity which the body acquires by a change of form.

“ It may be supposed, however, that the difficulty is only avoided, not removed. May not this very difference of capacity in bodies, in whatever state they exist, proceed from a chemical combination of caloric? By saying that different bodies, or different forms of the same body, have different capacities for caloric, the general fact is merely expressed, that in equal quantities, and at equal temperatures, they contain unequal quantities of this power. But the cause of this is not pointed out. May it not then be chemical combination of part of the caloric, of that part of it in each body, which amounts to the difference of the quantity it contains, compared with another? This opinion, however, is at once refuted by the consideration, that, were it true, the quantity of free caloric, or caloric of temperature, ought in all bodies to be the same; and that consequently, in equal changes of temperature, equal quantities of caloric ought to be absorbed, or given out by all, since the very principle which is assumed, is, that the cause of the difference in the absolute quantities of caloric which bodies contain, is, that that portion in one body, which exceeds what is contained in another, exists in it in a state of chemical combination.

“ Whether, therefore, the question be considered as relating to the cause, why different bodies contain, at the same temperature, unequal quantities of caloric, or to the cause why different forms of the same body follow the same law, in neither case is it probable, that a chemical combination of part of that caloric is the cause of the difference. *And as the phenomena are in both cases the same, they must be ascribed to the same cause, whatever that may be.* Until this is discovered, the general fact ought merely to be expressed: caloric, whether matter or motion, is to be considered as a



power diffused over matter, as the cause of that state of bodies termed their temperature, as having a tendency to diffuse itself until a common temperature is formed; but for the production of this temperature in different bodies, and in equal forms of the same body, unequal quantities of this power are required."

It is evident that the theory of Dr. Black, who merely says that the heat becomes latent or inactive, agrees with either of the above-mentioned theories.

The nature of caloric next engages the author's attention, and he examines the opinion of Bacon, that heat consists in or is caused by a vibratory motion of the particles of bodies, which has lately been revived by Count Rumford. After stating the arguments very candidly, he endeavours to controvert this idea by the following ingenious reasoning.

"The explanation, however, will be found very unsatisfactory. By friction, or any other species of mechanical motion, vibration of the particles of bodies will indeed be induced; but can the existence of this vibration explain the most important effects of caloric? Does it account for the most general effect, expansion, or for the production of the fluid and aëriform states? Vibration is merely the oscillatory motion of the particles of bodies, that state in which they approach to and recede from each other. How can such a state enlarge the volume of a body to any moderate extent, much more to 1600 or 1800 times its bulk, as happens in many cases where a solid is converted into vapour? However violent the vibration may be, it is not easy to perceive how it can induce a permanent repulsion of the particles. If, to explain the phenomena, it is assumed, that the cause of heat is not simple vibration, but a peculiar species of repulsive motion, it becomes necessary to point out the kind of motion; since, if this is not done, it is not accounting for the phenomena, but only stating the general fact in other terms, and saying, that a repulsion is established between the particles: and were the kind of motion pointed out, it would still be necessary to shew how it was generated by friction; which, supposing it to be different from vibration, it might be as difficult to do as to explain the rise of temperature from that cause, on the hypothesis of the materiality of caloric. In ascribing temperature, therefore, to mere motion, we have either an opinion, which, though precise, is not sufficient to account for the phenomena, or one which is so vague, that it can be scarcely made the subject of reasoning.

"We



“ We find also, that the laws of the propagation of caloric are inconsistent with the supposition of its being motion. Were this supposition just, it ought to be propagated instantaneously through an elastic body, while, like a fluid, we find it passes with considerable slowness. It ought also to be capable of passing through fluids and airs, which the experiments of Count Rumford shew that it is not. Neither is the difference in the quantity of it contained in bodies satisfactorily explained; for, were it mere motion, it ought to be proportioned to their temperatures and quantities of matter.

“ On the opposite *hypothesis*, that of a subtle fluid, whose particles are mutually repellent, the phenomena are easily accounted for. The introduction of such a fluid must cause expansion, which, carried to a certain extent, will produce fluidity or vaporisation. This fluid may be capable of being communicated from one body to another; and from its peculiar relations to each, it may be communicated with different velocities, and may act upon them unequally, so as in equal quantities to produce unequal effects. It is the satisfactory explanation which this hypothesis affords of the phenomena that has always led to its general adoption.

“ There are even facts which tend to prove the existence of such a calorific matter, and which are scarcely capable of being explained on the supposition of caloric being motion: such are the radiation of caloric, its passing through a vacuum, and its disposition to ascend, as proved by the experiments of Pictet.

“ So far the one hypothesis is much superior to the other; there remains only the difficulty of explaining how caloric, supposing it to be matter, can be produced by friction. In strict reasoning, this difficulty does not warrant the conclusion, that no such matter exists; and the argument, such as it is, is perhaps fully counterbalanced by the difficulties attending that opinion, and the facts that may be urged in favour of the other.

“ It is also perhaps possible to conceive how the caloric, supposing it to be matter, is excited by friction. The phenomena of electricity furnish a case somewhat analogous; and if we had it not in our power, from the distinction of *conductors* and *non-conductors* of the electric fluid, to trace the source whence it is derived when excited by friction, they would apparently exhibit the impossibility of a finite body furnishing an unlimited quantity of a certain power. May not caloric be excited in a similar manner? When a body is  
put



put into a state of vibration, the caloric interposed between its particles must, in their approximation, be forced out; and it is possible that, in the alternating retrocession, the body may be disposed to take caloric from the matter with which it is in contact, rather than again to absorb what it had given out. Such a supposition, which, from the consideration of the excitation of the electric fluid, is not improbable, would be fully sufficient to account for the production of caloric by friction; for it would not be difficult to shew, that the arguments used by Count Rumford and Mr. Davy, to prove that caloric cannot be communicated from the matter in contact with the body to which the friction is applied, are not conclusive. It does not follow, but that that matter might conduct caloric to the body, though it might at the same time be receiving a portion of the caloric, which the friction renders sensible; neither is it a necessary consequence, that the temperature of the matter thus conducting caloric should be considerably reduced.

“ If, after all, we should be obliged to admit, that the motion is more directly the cause of the rise of temperature than this supposition allows, the facts that have been stated still render the opinion, that the mere motion itself constitutes heat, improbable. And when the opposite facts, which appear to prove the existence of a caloric matter, are considered, we should perhaps be compelled to admit, that if the phenomena of caloric are not owing to the mere presence of a subtle fluid, neither are they to the vibration of every kind of matter indifferently, but rather to the combination of these causes, to vibrations excited in a peculiar matter, capable of penetrating all bodies; augmentation of temperature being produced either by the communication of a larger portion of this fluid, or by the motion of its particles being rendered more violent. This hypothesis, however, which is similar to the notion entertained by the earlier chemists of the nature of fire, is much less simple, and is perhaps unnecessary.”

The subject of heat is concluded with an account of the means by which variations of temperature are produced; here he considers the effects of freezing mixtures, and observes, that the reduction of temperature which they produce is owing to an augmentation of capacity resulting from their mutual action, and in general arising from the liquefaction of the solid salts, or of the water of crystallization which they contain.

*(To be continued.)*



ART. VI. *An Inquiry into some of the Effects of the venereal Poison on the human Body; with an occasional Application of Physiology; Observations on some of the Opinions of Mr. John Hunter and Mr. Benjamin Bell, and practical Remarks.* By S. SAWREY, Surgeon. Octavo. 201 pages. London. 1802.

THE particular subjects of discussion which come under the consideration of the author in this work will be best known by his own words. "In tracing the course," says he in the Preface, "and observing the consequences of these (*venereal*) diseases, I have been led to conclude that the poison of gonorrhœa and of chancre is the *same*. The circumstances on which I ground my opinion occupy the first chapter of this work.

"Having gained this information, I thought myself authorized to reason and apply it to the explanation of several of the phenomena attending clap, to answer some objections, and explain some of the important differences between the two effects of the same poison, gonorrhœa and chancre. I then thought it necessary to examine into the nature of the evidences which Mr. Bell brings forward to support a different opinion, and give a few practical hints upon the cure of clap, which the inferences suggest. These comprise a preparatory part.

"Proceeding to the subject, namely, a physiological inquiry into some of the singular effects of the venereal poison, it naturally divided itself into two distinct sections of inquiry: first, into the effects of the poison *when externally applied*; secondly, into the effects when *circulating in the blood*.

"On the effects when externally applied, I have noticed the *continuation* and *extension* of the venereal disease. In these respects it is different from many other maladies. I have attempted a physiological review of Mr. Hunter's opinion, which, together with some analogical reasoning, has occasioned me to draw an inference different from his; and I have added some observations which seem to strengthen that inference.

"In considering Mr. Hunter's theory of the cause of the poisonous quality of venereal matter, some inconsistencies and contradictions struck me. I have endeavoured to investigate how far his opinion is capable of being applied, to explain different incidents of this disease connected with it, and whether it is in conformity to laws of the animal economy.



“ These investigations led me to dispute Mr. Hunter’s opinion, to suggest and apply a different one, and make a few practical remarks upon the local treatment of the venereal disease.

“ Whenever I found necessity to dissent from Mr. Hunter’s opinion I have given my reasons. I have taken the liberty of doing so, conceiving that on all medical subjects, though the most respectful attention should be paid to the suggestions of celebrated men, yet that it is essential to the improvement of the healing art, that it be always considered as open to fair and temperate discussion.

“ In the last part of this work I have remarked on the effects of the poison when in the circulating fluid, and on the principal points in Mr. Hunter’s theory of lues venerea: Whether its effects are now venereal—whether the product of venereal sores be infectious—whether the poison continues to circulate in the blood, or is soon thrown out by the powers of the system—whether the poison accumulates—how the product of sores in lues becomes poisonous—whether the effects of the venereal poison be limited—whether the effects produced from the poison, externally applied, be made worse by the blood being contaminated—whether the venereal disease be the immediate cause of others, &c.

“ This part ends with a few practical admonitions upon the cure of lues; to which is appended, a summary of some of the opinions of Mr. Hunter, and those which I have adopted.”

In examining the nature of the poison producing gonorrhœa and syphilis, he gives us the detail of four cases, from which, and some others, he is led to join with Mr. Hunter in opinion, “ that the poison of gonorrhœa will either produce gonorrhœa or chancre; or if received into the circulating blood, it will produce lues venerea.”

The author does not conceive that Mr. Hunter argues with his usual ingenuity, when he endeavours to account for the different effects of the venereal poison on different parts of the body; but we by no means think that the author’s reasoning on the subject is more just or philosophical than that which he condemns. He says, that “ many of the arteries of this lining (the urethra) appear to be open-mouthed, by which a copious fluid is exhaled, to lubricate and defend the canal.

“ The nature of this membrane, the particular degree of irritability in its arteries, give the part appropriate susceptibilities



bilities to the influence of certain causes, by whose action it becomes diseased."

When Mr. Hunter tells us, that the different effects of venereal poison arise from the difference of its operation on secreting and non-secreting surfaces, we see no novelty in the statement of the author. He admits, with Mr. Hunter, that a diversity occurs from the urethra being a secreting surface, but by no means removes any part of the obscurity of the subject, by stating, that the inner membrane of the urethra possesses appropriate susceptibility to the influence of certain causes. This is nearly saying with Hunter, that there is a peculiar action in the part, on whatever this may depend; and how very short a way we proceed in our physiological inquiries by admitting such an action, susceptibility, or peculiar irritability, it is not at present necessary to notice.

The author next attempts to explain some of the differences between the symptoms and effects of gonorrhœa and chancre, and, after combating the opinions of Mr. Bell, concludes the first part of his work by recommending for the cure of gonorrhœa the general use of mercury in small quantity, together with such topical remedies as may be necessary.

The second and third parts of this work are principally occupied in examining the sentiments of Mr. Hunter on various parts of venereal pathology; the principal differences of opinion are delivered by the author in a summary at the end of the volume, which, as it gives a comparative view of the doctrines of Mr. Hunter and the author, we shall transcribe.

" Mr. Hunter's opinions are :

" 1st, That the two diseases, gonorrhœa and chancre, are effects of the same poison.

" 2dly, That the poison, in most cases, when applied to the human body, occasions an inflammation, and to this inflammation is joined a peculiar manner of acting, also produced by the poison; to which peculiar or specific mode of action he attributes the formation of poison.

" 3dly, He afterwards disregards some of those assertions, and appears to be of opinion, that the poisonous quality of the matter is caused by an established law in the animal economy, whereby, whenever the irritable parts are caused to act by a peculiar substance or cause, so as to produce matter, that product necessarily possesses similar qualities to the cause which produced the action.

" 4thly, That when the effect of the poison is gonorrhœa, it ceases spontaneously; but not when it is chancre.



“ 5thly, That the venereal disease is kept up by the ‘ specific quality of the inflammation itself.’

“ 6thly, That the venereal poison, when absorbed by the lymphatics, and conveyed into the circulating fluid, by some means loses its specific principles, but still continues to be capable of producing disease.

“ 7thly, That the local effects the poison produces, when in the blood, are all of one species, which is ulceration.

“ 8thly, That the product of venereal sores is not poisonous.

“ 9thly, That the secretions are not affected by the poison.

“ 10thly, That a pocky child cannot be produced either from the father or mother.

“ 11thly, That when the venereal poison is received into the circulating fluid, it contaminates at the same time all the parts susceptible to its influence, and is soon thrown out of the system along with the secretions.

“ 12thly, That the parts contaminated do not immediately become diseased, but assume a state of disposition towards it.

“ 13thly, That mercury can prevent and suspend the disposition, but cannot cure it.

“ 14thly, That a part once cured never becomes again diseased from the same infection.

“ 15thly, That the effects of the venereal poison are limited within certain bounds.

“ 16thly, That the venereal disease becomes the immediate cause of others.”

The principal conclusions of the author are as follow :

“ 1st, That the poison of gonorrhœa and chancre is the same in the essential or poisonous principles.

“ Gonorrhœa and chancre seem to be of the same nature, and occasioned by the same cause, which produces different effects, according to the nature of the part to which it is applied.

“ 2dly, That the poison, when externally applied, produces a kind of inflammation.

“ Whether applied to the urethra, or to a part covered with a more firm skin and cuticle, the inflammation often goes on to form matter.

“ 3dly, That when applied to the urethra, a discharge of puriform matter flows from its orifice.

“ The peculiar character of the part, the nature of the disease, and the composition of the matter, tend to prevent so frequent



frequent contamination in this state of the disease, as from chancre.

“ 4thly, That the product elaborated by the inflammatory acting vessels, and from their untainted contents which they circulate, undergoes a change, and becomes poisonous, after leaving the small arteries which form it.

“ From observation it would appear, that the product flowing from the inflammatory acting vessels is thin and transparent, and afterwards becomes more thick and opaque.

“ 5thly, That when the effect is chancre, the product is composed of the dissolved solid particles of the part with their juices, and a product of the inflammatory acting small arteries.

“ In this there is not a destruction, but a dissolution, decomposition, or a change in the solid particles of the part while the chancre is forming and extending; these decomposed parts, together with their fluids and juices, and the product issuing from the broken arteries, compose the product.

“ 6thly, That the matter issuing from these vessels also undergoes a change after leaving them, and becomes poisonous.

“ The inflammatory acting vessels, by their action upon their contents, and the assistance from the force à tergo, throw out a fluid, which at first appears thin and watery, and afterwards becomes thicker and more opaque.

“ 7thly, That the venereal inflammation is produced, continued, and extended, by the poison.

“ The venereal complaint, no doubt, has many peculiarities, some of which are prominently marked. The singularities I conceive to be caused by the particular qualities of the poison, and that these characterizing effects, the *continuation* and *extension*, are consequences of its poisonous influence.

“ 8thly, That the effects the venereal poison produces, when taken into the blood, are venereal.

“ The venereal poison, when conveyed into the circulating blood, produces many local effects, which are venereal, of the same nature as those of chancre and gonorrhœa.

“ 9thly, That the product of sores in lues venerea is poisonous.

“ The consequences of the poison being externally applied to the vessels, often are inflammation and ulceration, and a poisonous product. When it is received into the circulating blood, and brought in contact with the internal surfaces of the small arteries, the same effects often are produced. The product



duct of these sores will again produce poisonous effects upon the same or different systems.

“ 10thly, That the poison once received into the blood, continues to circulate in that vehicle an unlimited time.

“ The poison, when admitted into the circulating blood, remains in that fluid, and repeats its effects upon parts of the body, until destroyed or thrown out of the system through the natural outlets, and by the force of medicine; the powers of the body not being able to clear it of this pernicious cause.

“ 11thly, That the poison increases in the blood.

“ We conclude, from the function of the arterial system, the numerous and copious excretions which it performs, the ingredients of which are taken from the common stock of blood it contains and circulates, that the poison would be soon got rid of, had it not the power of receiving supplies, or accumulating, when in that fluid.

“ 12thly, That a part cured may again become diseased from the same infection.

“ By the same poison remaining and accumulating in the blood, it is enabled to produce effects upon different parts, which may be cured by the force of medicine; yet the poisonous cause, not being completely annihilated, recruits, and those effects are again repeated upon the same or different parts.

“ 13thly, That the child in utero may be contaminated from the mother.

“ It would appear, that the child in the womb may be contaminated from the mother. I have inclined to dissent from the opinion, that it may be affected from the father.

“ 14thly, That the secretions may be contaminated.

“ The blood from which the secretions are elaborated, being contaminated with the venereal poison, we conclude that the secretions themselves can hardly be quite wholesome.

“ 15thly, That the product of sores in lues is venereal, from being formed out of tainted ingredients.

“ When a breach is formed in the solid parts, by the venereal poison being in the blood, a product flows from the broken artery, which is formed from the tainted blood which they circulate; hence becomes poisonous, as it leaves those vessels which make it.

“ 16thly, That the effects of the venereal poison are not limited.

“ The effects of the poison, whether when applied externally or internally, if left to themselves, after a longer or shorter



shorter time spread, by which the sound adjacent parts are affected, and the malady only stops and declines by the use of medicine.

“ 17thly, That the venereal disease seldom, if ever, becomes an immediate cause of other complaints.

“ When the venereal disease ceases, other complaints may commence, the body or part being left by that disease in a more susceptible state to the operation of the cause of the new malady. This manner of forwarding disease ought to be carefully distinguished from an actual cause.”

ART. VII. *Hygëia, a Series of Essays on Health; on a Plan entirely popular.* By THOMAS BEDDOES, M. D. N° V. 94 pages. April 1802. PHILLIPS, London. Price 2s.

THE subject of this Essay is Temperature, with Remarks on Hardiness and Diet. We perfectly agree with the ingenious author with respect to its importance, and subscribe cheerfully to the opinion, that a hundred pages of plain and appropriate instruction, how to secure the advantages of temperature, and how to escape from its mischiefs, would be of more service than a hundred volumes of such discourse as we commonly meet with on the comparative merits of flesh, fish, and fowl. We wish we could conscientiously say that this has been executed in the Essay before us, in the manner which we might have expected from the abilities of the author, and the happy method he frequently adopts of placing such facts in a striking point of view. We took up the Essay, perhaps, with too high expectations, and must confess ourselves somewhat disappointed; for though it contains some excellent observations, they are enveloped in a cloud of extraneous matter; and, in our opinion, the author has treated this subject in a manner full as satisfactory in a popular Essay published several years ago\*.

The author observes, that “ during those epidemic pestilences of the dark ages, which were so destructive as to obtain notice in general history, the people and the medical faculty agreed to bewail the malignancy of the atmosphere. The atmosphere was accused in cases, where he who ran might

\* The essay alluded to is entitled, “ A Guide for Self-preservation and parental Affection; or, Plain Directions for enabling People to keep themselves and their Children free from several common Disorders.”



almost have seen, that the calamity was disseminated by the grossest kind of contagion alone. But in acquitting the medium by which we are surrounded, of producing one class of evils, its real injurious influence, if not absolutely overlooked by professional men, has never been sufficiently explained to the mass of those on whom it is exerted."

In order to supply this great deficiency, Dr. B. proceeds separately to consider different ages, constitutions, and circumstances, and thus endeavours to furnish his readers with data for determining the mode of conduct best suited to themselves, and to those dependant on their discretion. He, however, expects that they, on their part, will bring with them common prudence to the consideration of common matters, and not suffer themselves to imagine that any tricks of medical legerdemain can suddenly repair the ruin brought upon the human machine by long negligence and gross error. We fear, however, that it will be a long time ere mankind will become generally convinced of the important truth, that the change which has been brought on the constitution by a long and improper application of exciting powers, cannot be cured by swallowing a few drugs, or by any other means than by a perseverance in contrary habits. Till this truth be firmly impressed on the mind, the most judicious directions for the preservation of health will fail in their effect.

The author, in the first part of the Essay, gives some very good directions respecting the temperature and diet necessary for new-born children: he particularly advises, that the heat of the nursery-room should be kept as uniformly as possible at about  $60^{\circ}$  for the first four or five weeks after birth. Indeed he thinks, that the air in the nursery should never be suffered to be below  $50^{\circ}$ . This ought to be ascertained by means of a thermometer, an instrument which no hot-house is suffered to be without. New-born babes, he observes, come from a climate as warm as any exotic plant; they are as tender; and who will say they are not entitled to as scrupulous care?

The unnatural plan of nursing out of the house is properly and severely censured.

"On giving the whole subject due consideration," he observes, "few things will, perhaps, appear less comprehensible than the practice of *nursing out of the house*, or confiding solely in the uninstructed and the undiscerning. I can scarce, indeed, conceive that this practice has ever been followed by any parent, who had once sat seriously down to consider, what are the requisites most essential to happiness in every stage of mortal



mortal life without distinction. If we abstract from certain uncommon instances of adoption, what shall we repute the ordinary condition of foster parents to be? What is the condition of those who are sent abroad to be fostered? Is not the latter evidently such, that if Quintilian properly advise to *commit a beginner to the most skilful to initiate into learning*, the harder task of initiating into life ought not to be committed to the most unskilful?

“As to foster-parents, it would be wasting words to describe their deficiency in means, information, expedients, vigilance, and penetration. With scarce the ability to perform the easiest offices relative to human beings, they are charged with the most difficult. Whatever be the number of ill-starred infants that may have passed through their hands, it is impossible, without more than a miracle, that their qualifications should have received any material increase. It is the misfortune of mankind, that experience itself can instruct none but those who are prepared for its precepts by art, or by some very unusual bounty of Nature. Upon the latter chance, nobody in his senses will reckon, and the former sort of preparation is always wanting to the persons in question. What is the common history of poor families? Why, that a large proportion of the members perish, or become diseased, in the rearing. To what are we to ascribe this? Surely, not to penury alone; ignorance claims its share. Nor must those faithful attendants upon ignorance be excluded, heedlessness on the present occasion, and rashness on the next. Does the history of those opulent families, whose heads divest themselves of the superintendence of the members during their most precarious years, differ very widely from that of the poor? I doubt it extremely. Were an inquisition taken, their bill of mortality, and their bill of health, would, I am persuaded, agree in a similar result. And whenever a business, capable of being conducted, in a great degree, according to ascertained principles, shall cease to be carried on at random, fathers and mothers, who have it in their power to provide for the proper accommodation of children, will less frequently have to lament either their loss, or the irreparable personal misfortunes of their infancy.”

The following observation deserves attention: “One fatal error seems to be entertained by parents, and by many founders and conductors of seminaries of learning. The correction of this error will afford a rule, applicable to the healthy of all ages, and to those who have not deviated from health. It was



observed, that many persons, accustomed to be buffeted by storms, so much exceed the inactive fireside *tenderling* in spirit, vigour, and health, as to have a fair claim to be deemed a superior variety of the human species. The effect of certain cold mediums in giving hardness to some inanimate bodies, and in bracing others, or bringing their parts closer together, was joined to the preceding observation. It was also evident to feeling, that the stoutest men have their muscles most braced, or most capable of resisting compression.

“ These several particulars being taken together into account, no wonder it should have been concluded, that to endow a young person with the most desirable qualities of body, there was nothing to be done but to expose him sufficiently to cold. This mistaken system was, indeed, infinitely more prevalent some years ago than it is at present ; and many constitutions must have been suddenly destroyed in consequence. Others, originally unable to stand rough treatment, must have received an instantaneous shock, which could never be recovered, to whatever length life might be afterwards protracted. This seems to have been the case with Rousseau, whose compliance with the custom, once fashionable, of drinking freely of cold water in the morning to benefit the health, manifestly injured his nervous system to a degree, which I am tempted to suppose had its share in producing his subsequent unhappy state of mind.

“ The more any one can resist internal and external cold, the more hardy may he justly be reputed. Nor is there any surer criterion of hardiness. But whatever perfection the constitution may, in this respect, have attained, *long-continued and repeated chills will, in the first instance, enfeeble, and in the second, bring on a susceptibility to the operation of the powers that superinduce violent diseases.* The true principle, therefore, is gradually to inure the habit to cold ; then it may continually be enabled to bear a longer and severer application of it ; but as soon as a chill comes on, be that whenever it may, to stop the process, and to take proper measures for returning to the natural condition without injury. Of these measures I shall say something below.”

A prime incidental cause of disease and debility, our author supposes to be long-continued swimming or bathing. “ In many, indeed in most schoolboys,” he observes, “ we may be sure that there may be thus produced any sort of slow complaint, according to the existing predisposition, or any sort of inflammation, according as imprudences shall be immediately afterwards



afterwards committed. No human frame can be tempered so as to resist the effect of water, applied for a certain period, and at a certain temperature. The bosom of the earth hides multitudes, who have been suddenly cut off in their pride of strength by its operation, or whose hairs have been slowly brought down to the grave before they were gray. Greater multitudes have been reduced by the very same agent to crawl upon its surface, or lie continually groaning under an inability to crawl. This fate befalls the mountaineer of the Highlands and of the Alps. It equally befalls races of men, in comparison with whom the Highlander and the Swiss would seem to deserve to pass for feeble and uninured to hardships. What, then, is not to be apprehended from the tenderly reared offspring of parents not particularly robust, if they be allowed to dabble in water at discretion? I do not see how we shall avoid the opposite inconveniencies of renouncing wholesome practices altogether, or of carrying them to a hurtful excess, without a superintendent who can judge of the effect in every individual instance, regulate exposure according to the resisting power of each constitution, and put an immediate stop to any threatening mischief, brought on by youthful heedlessness or impetuosity.

“ It will be obvious, if there be any truth in the preceding observations, that no person, already chilled, is fit to encounter a more chilling medium. What can be safely done in a heated state, may call for a little farther explanation. It is clear, from a hundred instances, that, when persons are heated, the sudden use of cold water, whether external or internal, to a certain extent, will destroy life and health. In the case of dry heat, however, it appears that water may be drank and applied as cold as Nature furnishes it, safely and with the advantage of refreshment. But if the application be external, it should be but for a short time; and the quantity drank should be sparing; and the draught should be discontinued the instant there is the least sense of chilliness in the stomach, or rather before any such sense supervenes. This caution is the more necessary to those who have lived in habits of indulgence; such persons chill faster than others, and they suffer more from frigorific or cold-producing agents too freely applied. Our ladies should, for these reasons, be particularly on their guard. Experience teaches them how little they can venture to take liberties with themselves at *certain periods*; but in early life many become victims to this species of indiscretion.



“ But although in the *glow of perspiration* it seems dangerous to take general or partial liberties with cold spring water, Dr. Franklin is of opinion, that ‘ during the great heats of summer, there is *no danger* in bathing in rivers, which have been thoroughly warmed by the sun, however hot we may be.’ And all subsequent experience seems to youch for the opinion of this great observer; but the continuance in the river should be short; only when *the chill of perspiration* has come on, then undoubtedly every medium, capable of depriving the body of warmth, and much more if it conduct heat rapidly, menaces danger. The moist garments should be laid aside, and the body rubbed before a fire. This seems the only safe plan.

“ The same distinctions ought to be recommended to notice, as to drinks. In the warm state, a moderate quantity of liquid, not less than thirty or forty degrees above the freezing point, may be admitted; but cold water, and still more ices, should be strictly avoided. The chill requires liquids (as wine and water) above the temperature of the human body, and indeed as warm as can be conveniently swallowed. In case of a chilly seizure from the unwary use and application of cold water, very hot liquids, taken till the contrary sensation arises, would probably prevent all injurious consequences: and at those orgies of courtly gluttony, where we hear of the serving up of ices in such profusion, and where, every now and then, it is the fate of an ambassador to eat himself to death, almost on the spot, I am of opinion, that there should always be at hand an urn, full of warm cordial beverage. By a draught of this, at the decisive moment, such serious diplomatic accidents would, I will venture to say, be prevented even more frequently than persons are recovered from drowning by the measures of the *Humane Society*. Nor am I acquainted with any contrast more miserable than that which is formed by the ingenuity of the professors of the culinary art in providing poisons, and their stupid neglect of antidotes; and this where the existence of grave personages, charged with the interest of nations, is at stake! Nor would it be amiss, if sovereigns, in selecting their representatives, were a little mindful of the power of the stomach, as well as of the head!

“ It may somewhat assist the judgment, if I observe that the effect of any cooling application should be considered as acting through successive moments, or by successive quantities. If a person in a heated state drink half a pint of cool liquid, that may not sensibly reduce him below the natural healthy



healthy state; but if he pour down a double quantity at once, the last half pint may be regarded as operating upon the system, reduced by the first, and sinking it into a dangerous chilliness. So immersion for a moment, in a sunny river, may strengthen and refresh, as many pedestrian travellers have experienced; whereas delay in the water would be attended with great hazard, on account of the continued operation of a heat-abstracting medium upon a system sufficiently reduced in its temperature and in its actions by the first plunge."

Under the head of "*Hardiness*" we find some excellent observations. The following remarks are particularly deserving attention.

"One of the causes that contributes most materially towards the reduction of persons, living at their ease, below the standard of hardiness, is the dependance they place upon external warmth for preserving a comfortable state of sensation. Thousands of experiments made for the express purpose, and universal experience with regard to the human race and to domestic animals, agree in one point. They shew that *continued warmth renders the living system less capable of being called into strong, healthy, or pleasurable action*. Every muscle, steeped in a heated medium, loses of its contractility; every nerve grows languid, and, when excited, acquires a disposition to throw the moving fibres with which it is connected into starts, shocks, twitchings, and convulsive movements of whatever denomination.

"Those, therefore, who have not accustomed themselves to sit in warm rooms, should most carefully avoid making this unwholesome indulgence necessary to themselves; others should, by degrees, endeavour to render their comfort independent of it: for this purpose, they should retreat out of their *stoves* at short and frequent intervals; they may easily, by a little attention, discover times when the open air will be more grateful to the sensations, as well as more salutary to the habit. Those who complain of being most chilly in common, have their periods of dry heat; and then they will always find a cooler atmosphere pleasant and refreshing; one such period will often occur after dinner; and, on that account, it were to be wished that we took our principal meal at an earlier hour; for we should be able afterwards to enjoy the benefit of the air, during a much longer portion of the year, by daylight. It would be better still if breakfast were a more nutritious meal, and in the case of the puny, if it consisted of some preparation of milk, or of animal substance, without tea or coffee.

A short



A short walk in the air, or pacing backwards and forwards in a room without a fire, will take off the unwholesome and strength-consuming after-dinner flush."

He then proceeds to point out, in his peculiar forcible manner, the bad effects of the life led by people of fashion.

"But instead of availing themselves of the mildly cooling quality of the air, our genteel multitudes do every thing they can to add to the over-stimulating operation of dinner. After taking strong wine with their food, they sit in rooms rendered progressively warmer all afternoon by the presence of company, by the increase of fire, and, for more than half the year, by early closing the shutters and letting down the window-curtains. At a short interval tea or coffee succeed, liquors stimulating both by their inherent qualities, and by virtue of the temperature at which they are often drank; and that nothing may be wanting to their pernicious effect, they are frequently taken in the very stew and squeeze of a fashionable mob. The season for sleep succeeds, and, to crown the adventures of the evening, the bedroom is fastened close and made stifling by a fire. The robust are not so easily thrown out of the medium temperate state. The feeble, as I have said, are over-heated or chilled with nearly equal ease; and these, as they usually manage, rarely pass a few hours of sleep without feverishness and uneasy dreams; both which contribute to their finding themselves by far more spent and spiritless in the morning, than after their evening fit of forced excitement: perhaps they drink tea before rising, and indulge in a morning, noon, or afternoon nap; this nap weakens much more than the greatest muscular exertion they would be capable of supporting for an equal time; for it is almost invariably disturbed, and attended by dry heat of the skin: the reason is plain; almost every person is rendered more susceptible to the heat of the bed by a night's sleep, much more those who are so liable to be heated by slighter causes; and the tea acts, if not so powerfully as to be an absolute sudorific, yet as a stimulant of the whole surface. The remedy for this is obvious at least, if, in consideration of the power of habit and example, it cannot be said to be easy; it consists in deserting the heated rooms, at least for *part* of the time they have been usually occupied; in abstaining from the strong wines of our tables; in forbearing to drink other hot and heating liquors; in renouncing the crowded resorts of fashion, and in extinguishing bedroom fires, except during severe weather,



weather, when the temperature should not be raised beyond fifty degrees."

In speaking of the nature of catarrh, the author takes the opportunity of paying a tribute to the memory of a man, to whom medicine is as much indebted as astronomy to Newton, and chemistry to Lavoisier. "The opinion prevalent among the faculty and the public was," he observes, "not only erroneous concerning the production of these diseases, but directly led to the most dangerous management. Within these few years the mystery so long hidden was unveiled by the sagacity of Dr. John Brown of Edinburgh, an author of powerful genius, whose merits and fate form a striking contrast with those of the *petits maitres* of physic that figure as favourites of the great. The discovery deserves to be regarded as one of the most ingenious and happy combinations ever formed by the human mind, and, in relation to these islands, as perhaps eventually the most useful recorded in the annals of medicine."

He next proceeds to shew, that the complaints in the membranes of the head, windpipe, and chest, which properly deserve the name of a hot or inflammatory catarrh, are not owing simply to cold, but to the concurrent action of cold and heat, or stimuli equivalent to heat. Most commonly they are produced by accumulating the irritability of the mucous membrane by inhaling cold air, and afterwards exposing it in this state to the action of heated air, which will not fail to act powerfully upon this accumulated irritability, and produce an inflammatory affection of that membrane, or what is usually, but very improperly, called a cold. This doctrine is very distinctly illustrated by the following observations:

"It is common to the whole exterior surface of the body to be thrown into a state of violent action, if it be first cooled, and then suddenly heated. Single parts are affected in the same way. The effect of the cold bath is one of the slightest general operations of this nature; the skin is rendered so susceptible by the application of the cold water, that a glow is brought on by the contact of air at so low a temperature, that perhaps it chilled but the minute before. Coming out of the cold air into a warm room produces lively and continued warmth in the parts that have been exposed; a hand dipped in snow, and then held close to the fire, is stimulated into more considerable, and even painful action; it is now not an agreeable transient glow, but a burning or throbbing with an aching. The preparatory cold was more considerable; the ex-



citing heat more intense; the affection of the hand, therefore, more violent in proportion. It is well known (and this is the extreme effect of the causes in question) that frozen limbs will inflame so as to mortify, if they be not very carefully kept from the contact of mediums which are considerably above the freezing point: it is on this account, that to be restored they are rubbed, according to a practice long established in cold countries, with snow.

“ The membranes which the air sweeps in respiration, appear still more liable to be thrown into an inflammatory state than the skin. When the nose has been chilled by frosty air, applying a heated handkerchief will bring on a sneezing, and sometimes that inflammation of the membrane lining the nostrils and communicating cavities, which we call a *cold in the head*; in medical language it is named *coryza*; but these are frivolous distinctions. By attention to the circumstances preceding catarrh, every doubt as to the manner of its taking place will be dissipated, if the mucous membrane of the observer be not already too diseased to admit of distinct perception of the successive phenomena. None of that stuffing in the head, or huskiness in the throat, which mark the beginning of this complaint when the person is of a hardy constitution, and not very liable to catarrh, will be felt as long as he continues out of doors; but after seating himself by the fire, he will begin to feel universally on fire, and these sensations will be very distinctly perceived. And in addition to the feelings about the passages of the breath, feverish shiverings, attended by a quicker and stronger pulse, will succeed; and if the cold to which the system has been exposed was considerable, and the apartment be heated, and warm spirituous liquors be taken, a very severe catarrh will not fail to make its appearance, and perhaps a pleurisy in full form come on. The original feverish feelings, belonging to inflammatory catarrh, when at all severe, are very easily confounded with those at the beginning of the most dangerous eruptive fevers, being, in fact, of the same nature. I have, for example, known a patient, who had inadvertently caught the natural small-pox, keep close by the fire-side all day long, and fill himself with warm liquids, under the idea of having taken cold. The consequence has been confluent small-pox and death. And from the uniform result of experience, there is no doubt but the disease must have been excessively aggravated by the mismanagement that preceded the eruption.

“ When



“ When the supposition that *it is only a cold* happens justly to apply to symptoms like these, such a method is, of all others, the one most calculated to render it as severe as possible. The warm air that is respired, and the warm liquids that are drank, concur in carrying the inflammation to the greatest height. Cool treatment is just as necessary to prevent catarrh as to mitigate the small-pox. The analogy of frozen limbs should be strictly followed. We cannot, indeed, rub the nostrils, and the continuation of the mucous membrane, with snow or cold water; but we can do what amounts exactly to the same thing; we can keep an atmosphere, not much exceeding in temperature that by which these parts have been chilled, traversing them for any length of time. When the dryness in the nostrils, the huskiness in the throat, and the other feelings that denote the commencement of catarrh, have arisen from the chill of a distant part, the same expedient will be equally proper for prevention or mitigation; even when there has been scarce any difference in the state of the air, by which the windpipe and its branches have been chilled: but in respect to motion, I have known a very considerable glow over the whole body, and corresponding sensations in the nostrils and throat come on, when a person has continued to walk about in the calm, or in an apartment without a fire: so considerable is the effect of a rapid current of cold air in carrying away their heat from the animal surfaces! but in this case, the external and internal glow both passed away without leaving a permanent increase of action, or fixed inflammation. The effect of continuing for a time in a low temperature, after a chill of the mucous membrane, may be materially assisted by drinking cold water; and where there is a strong propensity to catarrh, the food should be taken cold, and all warm and heating liquids be carefully avoided for the day; for I have sometimes known a disposition to become inflamed remain for many hours after all action, strong enough to excite distinct feeling, had ceased through the extent of the mucous membrane.

“ In a variety of cases mankind act upon associations formed by sounds, without further inquiry; what more natural, therefore, than that he who has contracted a disorder called a *cold*, should expect to remove it by heat? The unquestionably just observation, that cold has its share in the origin of this disorder, no doubt gave rise to the denomination, and contributed to make people inattentive to the succeeding heat; and after the inflammation has fully subsided, a warm temperature



may have been felt useful in stimulating the weakened surface, and putting an end to the defluxion. In order to destroy the delusion, however produced, nothing can be more expedient than to banish the received term; I, therefore, risk the imputation of pedantry in using catarrh instead, leaving it to others to weigh the merits of this word against *rheum*, which is found in our older medical writers: it is, in truth, synonymous with catarrh.

“ Some authentic accidental occurrences, recorded within these few years, add considerably to the above evidence. If a low temperature alone produce the inflammatory catarrh, it should seem as if long exposure to it ought to aggravate that disorder, or at least to keep it up when formed; but severe cold has, on the contrary, been found to effect a cure in a very short space of time. One of the most striking instances is minutely related by Dr. Hamilton of Ipswich, in a letter to the author (*West Country Contributions*). A boy in Dr. Hamilton's service, with a considerable cough and febrile heat, played the truant one evening in February 1797, and passed the whole night walking or sitting in the streets. The night was the coldest of that season; the thermometer, at seven o'clock the next morning, standing at ten degrees below the freezing point. ‘ The boy's complaint,’ says Dr. Hamilton, ‘ was somewhat alarming; and I felt considerable uneasiness lest it should increase from his being first heated, as I presume by play, and then suddenly cooled by the frost. During the interrogation he underwent next morning, I observed he did not once cough, although in the same space of time, ever since the commencement of his catarrh, the cough would have often harassed him, and interrupted his narrative. I watched him narrowly, as I apprehended a fever might be the consequence of his midnight ramble; but here I was agreeably disappointed; for, in place of fever, his catarrh was cured, his cough ceased, and never afterwards returned.’ The same physician clothed a ragged old soldier, turned vagrant, in warm garments lined with flannel. Before putting on his new and entire garb, his bare body had been buffeted by rain, snow, and sleet. Next day he was very ill with catarrh, attended by fever; and the succeeding day his complaints increasing, he threw off his warm clothes, and betook himself again to his rags, swearing *his warm clothes had killed him*. No doubt former experience had taught him, that he could bear the severity of the elements in his rags with impunity. So that here, after a chill, the unusually accumulated



lated warmth of the exterior surface of the body seems to have had the same effect in bringing on catarrh, as warm air generally has on being respired. In an incipient catarrh, those who follow the example of Dr. Hamilton's boy, so far as to continue moving in the cold for some hours, will find it greatly reduced, if not taken off; but they must not afterwards heat themselves; they may sit at times, as well as walk, covering the extremities so as to prevent them from being chilled. The object is to apply a cool medium to the inflamed mucous membrane."

That the north-east winds are liable to produce catarrhs is well known, and this the author attributes as much to their dryness as to their diminished temperature, whereby they cause a quick evaporation from the parts with which they come in contact, and a proportionate degree of cold.

This Essay is concluded with an account of the catarrh which afflicts old persons, or others who have been frequently subject to the attacks of common cold, but which is not inflammatory; it depends on a state of indirect debility of the mucous membrane, from its excitability having been exhausted by frequent inflammation; and instead of being relieved by cold, as the inflammatory catarrh is, it is aggravated by the inhalation of cool air. A warm temperature alleviates it, by giving a stimulus to the debilitated parts, and thus lessening the discharge of tough ropy phlegm which attends this kind of catarrh.

Rheumatism is produced in the same way as catarrh, by heat succeeding cold in any of the muscular parts, and may be prevented and cured by the same methods: the chronic rheumatism, which often succeeds the acute or inflammatory, resembles the catarrh of old persons, and is a disease of indirect debility; it is relieved by heat, and aggravated by cold, which produce contrary effects in the acute rheumatism.

We shall conclude our account of this Essay with some useful directions to those labouring under chronic catarrh.

"Proper clothing must be worn. The propriety of the use of flannel next the skin is a question not well determined by our medical writers. Worn in the day, it has always appeared to me useful in chronic catarrh, except in our settled hot weather; I doubt whether it should ever be habitually worn by night: bed-clothes can always be laid on in sufficient quantity to prevent chilliness; on which account flannel seems useless, and in that state of increased sensibility of the skin which sleep induces, it is more likely to be hurtful than at any other



time by the stimulating effect of its piles, as also by the warmth it keeps collected round the body.

“As far as I have been able to judge, this harassing malady is less frequent among labouring persons than among the idle. And yet when it is once formed, many sorts of labour are carried on under circumstances that must have a tendency to increase it. But that general glow and activity of the skin, and also of the mucous membrane, which is kept up by muscular exertion, are probably more than sufficient to counteract the operation of those unfavourable circumstances. It would, therefore, deserve to be recommended to rich persons, afflicted with this species of catarrh, to submit to such a degree of manual labour as is consistent with their strength.

“But the most essential thing of all is, unhappily, the most difficult, or, at least, that to which it requires the greatest share of self-denial to submit: the open air must be avoided when it is of that temperature which provokes violent coughing and discharge of phlegm, for thus the disease is increased: it may be true, that in consequence of the mutual sympathy of different parts of the body, the warmth of the skin must have some tendency to diminish the susceptibility of the mucous membrane; yet this will not be a sufficient protection when the cold is of any severity, and it is impossible to line the passages from the mouth and nose to the remotest ramifications of the windpipe.”

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#### FOREIGN BOOKS.

ART. VIII. *A Review of the Improvements, Progress, and State of Medicine, in the eighteenth Century; read on the first Day of the nineteenth Century before the Medical Society of South Carolina, in pursuance of their Vote, and published at their Request.* By DAVID RAMSAY, M. D. Octavo. 47 pages. Charleston. 1801.

THE author of this pamphlet affords an instructive example of extent and versatility of talents, and of the efficacy of diligence and enterprise. At one time we behold him immersed in the toil and anxiety of an arduous profession, and, at another, assisting and presiding in the public councils of his country. Lately we found him recording the eventful story of the American revolution, and of the infancy of its national independence; now he recurs to his stores of medical learning, and instructs us by a retrospect of the progress, improvements,



provements, and state of medicine, in the course of the eighteenth century. In all these departments of exertion he has obtained much commendation. The city in which he resides will gratefully attest the value of his services as a physician for a series of years; the United States, and particularly the State of South Carolina, will long remember his patriotic labours; the suffrage of the public, both in Europe and America, combines to rank him among the best historians; and the pamphlet now under consideration will be found fully to maintain that distinction which the author has hitherto held among American writers.

In order to exhibit a clearer view of what has been done in the course of the eighteenth century, Dr. R. carries back his inquiries to the effects of the new mode of philosophizing, by the method of induction proposed by Lord Bacon. This recalled men's minds from the pursuits of speculation, and directed their attention to facts and experiments. Under the influence of this improvement Newton formed his system of the world, and Sydenham gained a deeper insight into the nature and treatment of diseases. To these preparatory steps in the seventeenth century, he adds the discovery of the circulation of the blood by Harvey, of the lacteals by Aselius, and of the thoracic duct by Pecquet.

Entering, at length, on that which properly belongs to the eighteenth century, Dr. R. holds up to view the great systematic writers who have chiefly succeeded in attracting distinction; among these he ranks Boerhaave, Hoffman, Cullen, Brown, and Darwin. Dr. R. omits to place in this group the name of Stahl, probably under the impression that his fanciful system is now too far exploded to deserve commemoration; but when we recollect the talents of that professor, the popularity of his doctrines, the number and ardour of his followers, the prevalence of his system in Germany, and the tincture which his principles still give to modern opinions, the propriety of the omission may, perhaps, deserve to be questioned.

Dr. R. next proceeds more particularly to enumerate the principal discoveries and improvements of the eighteenth century in anatomy, surgery, midwifery, materia medica, and the theory and practice of physic. Our limits do not permit us to exhibit even an outline of the variety of subjects mentioned under these heads. Full justice is also done to the period under review, in respect of the multiplication of societies or associations of learned men for literary and scientific purposes, and especially for the improvement of medicine and the auxiliary branches of philosophy. Nor does our author forget to  
render



render homage to the charity and benevolence of the century just elapsed, manifested in the institution and endowment of hospitals and infirmaries, far beyond what had been known in former ages; and he adverts to the important consideration, that, in such establishments, charity to the sick and to the poor goes hand in hand with the improvement and diffusion of medical knowledge.

The progress of natural history, and especially of botany, in the eighteenth century, receives from Dr. R. a proper degree of attention. The manner in which medicine has been enriched from this source is known to every body. The laudable beginning of a collection towards an American *Materia Medica*, made by Professor Barton, of Philadelphia, is justly considered by our author, as, indeed, it must be by every judicious person, as an attempt of the highest importance, and in every respect entitled to the patronage of the public.

Dr. R. dwells with great pleasure on the progress and improvements of chemistry in the course of the late century; he chiefly considers it in its relations to the practice of physic. In this view of the subject he takes notice of the enlargement of the *materia medica* which chemistry has procured, of the analysis of vegetable and animal substances and of the atmosphere, and of the prospect of advantage from pneumatic medicine.

As a specimen of Dr. R.'s mode of treating his subject, we extract the following paragraphs:

“ In estimating the benefits that have resulted to mankind from the labours of physicians in the eighteenth century, we must extend our views far beyond the administration of medicine. In that enlightened period, the air we breathe, the aliment we consume, the clothes we wear, the passions and habits in which we indulge, the peculiarities incidental to our profession, age, and situation; and, in short, every circumstance connected with health or disease, has been the object of medical investigation. The great triumphs obtained over the small-pox and scurvy have not been so much from medicine, as from the application of medical principles. Who can tell the extent of the benefits that have resulted from the pointed recommendation of medical men in favour of cleanliness? Attention to this matter, we are informed by Buchan, has nearly exterminated cutaneous diseases from all decent families in Britain. It has also extinguished the germ of infection, and often prevented the ravages of pestilence. The writings of



this useful popular writer have, within the last forty years, been read by thousands, and enlightened them in the great art of preserving health.

“ In addition to several improved systems of medicine, and to the treatises already mentioned on the diseases of seamen, and of armies, the physicians of the eighteenth century have obliged the world with valuable publications on the diseases of literary persons, of tradesmen, of pregnant and puerperal women, of children, on fevers of almost every species, on the plague, on melancholy and mental derangement, on the follies of youth, and the infirmities of age. They have treated largely of aliment, and minutely of the medical police of cities, and on the means of obviating infection and contagion. They have lighted up a blaze of medical knowledge, by which a few diseases have been nearly consumed; some destroyed in their embryo state; others entirely prevented; and all, more or less, mitigated. They have also seconded and enforced the claims of our holy religion; for they have demonstrated, from acknowledged laws of the animal economy, that the cheerful hopes which the doctrines of the Christian religion inspire, and the restraints which it imposes (particularly its divine precepts enjoining the forgiveness of injuries,) have a direct and positive influence in promoting the health of the body, as well as the purity of the mind. On the whole, medical philosophy, in its late wide ranges, has effected a revolution in the habits of men, and in the nature and treatment of their diseases, which has eminently conduced to the lessening of human misery.

“ In support of this assertion, I observe, that the plague, pestilential fevers, putrid scurvies and dysenteries, have much abated in the eighteenth century. This is true, in the great scale of enlightened nations, though the general prevalence of the yellow fever, in the sea-ports of the United States, for the last seven years, seems to form a local exception. Platerus, a physician at Basil, who lived in the seventeenth century, gives an account of seven different pestilential fevers, or plagues, which afflicted that city within seventy years. Bartholine mentions five that raged in Denmark in the same period. In the city of London, in the fourteenth century, there were five; in the fifteenth, two; in the sixteenth, seven; and in the seventeenth, there were four. The first of these began in 1603, and continued, more or less every year, till 1611; the second in 1625; the third in 1636, and continued for thirteen years; and the fourth in 1665. In these four visitations of the plague, in the seventeenth century, the city of London lost 133,985 persons.



sons. In York, 11,000 died of an epidemic fever in 1691. In the eighteenth century, nothing of the kind has taken place in any part of England, and only one (and that 80 years ago) in Marseilles, which, in former centuries, used to be the headquarters of the plague.

“ That this abatement of the plague has, at least in part, been effected by the smiles of Providence on the modern improvements, suggested by members of our profession, may be inferred from this circumstance—that Constantinople, Aleppo, Grand Cairo, and other places, on which the sun of medical philosophy has never shone, do now, and throughout the eighteenth century have suffered as much from the ravages of this disease as they had ever done before.

“ From a review of all that has been said, we have reason to congratulate ourselves, that we were born in this enlightened period, the age of investigation, of philosophy, and of medicine.

“ While we bid adieu to the eighteenth century, we cannot but recollect its many triumphs: in it the human race have been more safely ushered into life, and in their passage through it, many of their unavoidable sufferings have been considerably lessened; in it every branch of medical knowledge has been carried to an amazing extent; every department of the healing art has been improved; the chances for health and life have been enlarged; the avenues to death have been contracted. The deaf have been taught to understand; the dumb to converse, the blind to see, and the apparently dead have been raised to life. We may reasonably indulge an honest pride for having been bred to so useful a profession, and for being members of so respectable a fraternity. Among the practitioners of medicine in the eighteenth century are to be numbered, several of the greatest, wisest, and best of men, who have been the ornaments of human nature, and the benefactors of mankind. In support of this assertion I need only call your attention to the names of Boerhaave, Ruysh, Haller, Monro, Cheselden, Hoffman, Heister, Mead, Petit, Sloane, Morgagni, Pringle, Cullen, Gregory, Hunter, Fothergill, Tronchin, Pott, Warren, and many others, who were the lights of the world, and men of the most extensive erudition and unbounded philanthropy; who spent their lives in acquiring and diffusing a knowledge of the means of prolonging life, preserving health, and lessening human misery.

“ In our own State, what ancient inhabitant of Carolina who has not heard the names of Lining, Moultrie, Chalmers, and



and Garden, mentioned with the greatest respect, as gentlemen and physicians of the first character for usefulness and respectability? Since the establishment of our society we have been witnesses of the great professional merit, and the high place in the hearts of our citizens, which was held by Turnbull and Fayssoux; and of the high expectations which were formed from the youthful merit of Bartram and Lehré."

We are pleased to observe the respect and justice which Dr. R. thus renders to the eminent medical characters of South-Carolina. Every citizen of that State must exult in recollecting how signally it has been distinguished by a number of physicians, whose services will long be remembered with gratitude, and whose abilities will be revered by posterity. We hope such examples will be contemplated with veneration in every part of America, and that other States of the Union, in which medical science, from whatever cause, may have been less successfully cultivated, will become emulous of the reputation and fame of South-Carolina.

[*From the American Review and Literary Journal.*]

ART. IX. *Traité des Maladies veneriennes.* Par ANDRÉ VACCA BERLINGHIERI, Docteur en Medecine et Professeur d'Anatomie à Pise; publié par P. P. ALYON, de la Société de Medecine, de celle des Sciences et Arts, de la Société Médicale d'Emulation, Membre du College de Pharmacie à Paris, associé Correspondant du College Royal de Medecine de Stokolm, et Officier de Santé à l'Hospital Militaire du Val de Grace. i. e. *A Treatise on venereal Affections.* By ANDRÉ VACCA BERLINGHIERI, Doctor of Medicine and Professor of Anatomy at Pisa; published by P. P. ALYON, &c. Octavo. 302 pages. Paris. 1800.

THE editor informs us, that the manuscript of this work was intrusted to him by the author, with the liberty of publishing it, if he thought it in any way conducive to the improvement of that branch of the profession on which it treats. He has himself made no farther alteration in the body of the work than correcting some inaccuracies of style, into which the author might naturally be supposed to fall, from writing in a language which was not his own. On some points, particularly on the much-disputed one of the similarity or dissimilarity



milarity of the matter of gonorrhœa and syphilis, his ideas do not accord with those of the author: those, however, he gives either in notes at the bottom of the page, or as an appendix.

In some introductory observations, the author professes to aim at proving, in the present work, by reasoning and facts, that many of the means recommended by celebrated authors in venereal complaints are unnecessary; and that a great part of these complaints would go off of themselves, without the aid of medicine. He divides venereal complaints into such as are produced by the topical application of the virus, without absorption, and such as present themselves after its introduction into the blood. He commences with the former.

The first chapter treats of the phenomena of gonorrhœa, the causes which render its matter contagious, the prognosis, and the treatment.

The period at which symptoms of gonorrhœa appear is various in different persons; they generally shew themselves in two or three days after infection. In those cases in which they have been described as not appearing till after a period of forty days, or two months, it seems to the author to be doubtful if they were really the effects of the venereal virus.

The *symptoms* which precede gonorrhœa are generally "a sense of weight in the penis, a slight itching at the extremity of the urethra, a troublesome smarting in making water, and from time to time a redness of the external orifice of the canal." In different people, or in the same people at different times, these symptoms vary, and in some the discharge precedes them for some hours, or even days: the latter cases, the author is of opinion, are in general most favourable, though he admits that there are many exceptions.

The disease, when once established, is accompanied with more or less pain at the point of the glans, an inconvenient and involuntary contraction of the sphincter ani, and the accelerator urinæ, at the emission of the last drops of urine; frequent and painful erections; more or less swelling of the penis; a sensation of tightness round the glans at the approach of night, and sometimes an increased sensibility in the testicles. Phymosis and paraphymosis, dyschuria, even approaching to suppression, painful swelling of the perinæum, chordee, swelled testicles, inflamed lymphatics, and fever, are also occasionally present in virulent gonorrhœa.

These symptoms, after increasing for some days, and then becoming stationary, at last gradually decline, and, if the disease



disease is left to itself, they generally disappear in a month, six weeks, or two months, though in some cases they remain a longer time. When the inflammation is very considerable, abscesses in the perinæum, prostate gland, &c. may arise; and if the purulent matter be absorbed, syphilitic symptoms, according to the opinion of the author, may be produced.

The seat of gonorrhœa is the urethra, which is affected with inflammation, and is not in general ulcerated. The increased sensibility, swelling, difficulty of passing the urine, and other symptoms, he thinks sufficiently accounted for by the inflammation, and “by the venereal stimulus which draws the blood” to the part affected.

The swelling of the testicles and glands of the groin depends, he thinks, upon sympathy; and chordee, on swelling and thickening of the parietes of the urethra, which prevent it from stretching with the other part of the penis in erection, and thus bend it downwards.

The urethra, according to the author, has the faculty of drawing in the venereal virus, (*l'uretre pompe le virus venerien.*) There appears to him, however, some difficulty in this supposition, as scarce four or five, out of twelve or fourteen, are in general affected by a diseased woman; and some even resist the effects of the poisonous matter altogether.

On the causes which render gonorrhœal matter contagious, the author agrees with the opinion of Mr. Hunter, that every stimulus has the general property of exciting inflammation, and also its particular mode of action; hence specific inflammations, and suppuration depending upon them, and presenting particular characteristics. On these principles the venereal virus, having a specific action, produces an inflammation, *sui generis*, followed by a suppuration which is stimulating and contagious.

In gonorrhœa the *prognosis* is in general favourable; dangerous symptoms occasionally arise; but the disease, for the most part, will in time disappear of itself. Syphilis is but seldom produced by it. Every discharge of pus from the urethra is not the consequence of venereal infection, nor does the discharge in the latter stages of gonorrhœa always appear to the author to be contagious. Many irritations besides that of gonorrhœal matter can excite discharge, and in some cases it is difficult to pronounce decidedly on the nature and origin of the symptoms. He disagrees with Swediaur on the circumstances which distinguish infectious discharges from such as are not so; but agrees with him in thinking, that as they



are always suspicious; no one should hazard the communication of disease while any portion of it remains.

On the *treatment* of gonorrhœa, the author observes, that the most dissimilar remedies have been applied for this purpose; and from the success with which the employment of many of them is often attended, and more particularly from the periods at which the symptoms go off being frequently the same, whatever medicines may have been used, he is inclined to infer, that every gonorrhœa would in time disappear, if left to itself. Still, however, he would recommend means for moderating the symptoms if too violent, and somewhat lessening their duration. Two periods of gonorrhœa may be distinguished, one which is accompanied with inflammatory symptoms, the other in which a discharge only remains.

Inflammation may be moderated by repose, emollient fomentations and baths, bloodletting, low diet, watery liquors, and opium. *Opium* he considers as most useful for this purpose; but in its exhibition he thinks we ought not to be too timid. "Two, three, or four grains, are in general a sufficient dose; but if the symptoms are violent much more is necessary, if we would obtain salutary effects." These doses, in the ordinary cases of gonorrhœa, seem to us considerably too great. *Camphor* he has not tried. The antiphlogistic effects of nitre he considers as very indecisive. *Diluent*s he recommends from the power of abating the stimulant property of the urine.

On the external and local remedies employed in gonorrhœa, he thinks that the warm bath supersedes all the usual means recommended, such as fomentation, warm vapours, lotions, &c. He dissuades from the use of injections, and thinks that little advantage is ever produced from the local application of opium. *Leeches* he has never seen useful either in this disease or ophthalmia, and observes, that his experience differs, on this point, from that of English practitioners. Drinking plentifully of a watery fluid will, in general, prevent the occurrence of painful nocturnal erections.

He sums up his ideas on the treatment of gonorrhœa by observing, that when the symptoms are not very violent, the warm bath, (when it can be obtained,) the use of opium, abstinence from fermented liquors, or moderation in their use, diminution of the quantity of aliments, or the choice of the more plain and simple, will, in general, effect a cure. In the more severe cases we may have recourse to bloodletting, a more exact regimen, a total abstinence from fermented liquors,  
repeated



repeated warm baths, large doses of opium, complete repose. He also recommends the frequent use of water, either warm or cold, to remove the pus which is discharged. On the use of the latter, (cold water,) the editor properly observes, that its employment may occasionally be productive of disadvantage, by suppressing the discharge.

*Swelling of the testicles*, according to the opinion of the author, occurs most frequently in the more severe cases of gonorrhœa, and is occasioned by sympathy, as are many other phenomena observed in the animal body. When this symptom presents itself the discharge stops, and the pain of the testicle progressively augments for five or six days; the pain and swelling then gradually go off, but a tumefaction of the epididymis often continues for a long time afterwards, and in some cases never entirely disappears; it seldom terminates by suppuration, more rarely still by gangrene, and he has only seen one case in which it was followed by scirrhus. The usual remedies of inflammation are recommended.

*Chordee* he treats as a violent inflammation, and adopts the mode recommended by Swediaur, of tying the penis down, to prevent its coming on.

*Strangury* he considers the most serious symptom in gonorrhœa, and mentions cases in which it was accompanied with an abscess of the neck of the bladder. The means which he recommends for removing it, are local or general bleeding, the warm bath, emollient fomentations, and clysters, but particularly opium in large doses: when these remedies fail, he employs the catheter, but does not recommend a flexible one to be left in the bladder, as he conceives the parts will be less injured by an occasional introduction of it, than by its being continually present.

*Swelling of the groin*, and inflammation of the prostate and bladder, require the same treatment as has been before laid down.

The author conceives that mercury is never necessary for the cure of gonorrhœa; but confesses himself at a loss to account for the reason why it must be given in syphilis, and not in gonorrhœa, when he thinks that they both arise from the same cause. The number of those in whom syphilitic symptoms follow a gonorrhœa, does not, according to him, exceed two in a hundred; hence he conceives, that it would be bad practice to adopt, in all cases, a remedy which is so seldom wanted. He disapproves of the use of injections and irritating bougies for the cure of this complaint.



On the chronic gonorrhœa, or blennorrhœa of Swediaur, he observes, that it may arise from a remaining irritation in the canal, from a stricture, from an ulcer, or from weakness. His plan of cure is directed by the cause: if it arise from a stricture, he cures the stricture by the elastic gum catheter; and if from a remaining irritation in the canal, by copious watery fluids, baths, milk diet, &c. He thinks it very difficult to distinguish when the disease arises from an ulcer, and therefore recommends a similar plan to that laid down in gonorrhœa from remaining irritation.

In the atonic blennorrhœa he recommends astringents given internally, as the kino and serum aluminosum, or applied in the form of injection, fomentation, or bath. Alum, dragon's blood, tea, turpentine in water, cinchona, tormentil, blue and white vitriol, cuprum ammoniacale, and muriat of mercury, have been all employed with advantage as the base of external applications. Cold baths, violent exercise, balsam of Capivi, blisters to the perinæum, and electricity, have often done good: also tincture of cantharides, spirituous liquors, and *Pabus du coit*.

Many are of opinion, that astringent and stimulating *injections* are often productive of strictures, lues, ophthalmia, and deafness; but the experience of the author does not accord with this idea. Seventeen cases of gonorrhœa which he treated were followed by strictures, of which nine had been cured with mercury, four without medicine, and four only with astringent injections.

The symptoms which sometimes remain after the cure of gonorrhœa, such as frequent inclination to make water, unpleasant sensations in the urinary organs, &c. may generally be removed by a blister to the perinæum, electricity, or an irritating bougie.

The author next proceeds to the consideration of *chancres*. The venereal virus must remain a certain time applied to the part to occasion chancres. They appear in general in two or three days, though they are sometimes observed in twelve or fifteen hours, and sometimes not till the expiration of from five to forty days.

He considers it as extremely difficult in many cases to distinguish a chancre from other ulcerations of the penis, and is not acquainted with any certain diagnostics. In the cure of chancres, he thinks it perfectly unnecessary to employ mercury. He considers them as merely local, and removes them by lunar caustic, applied as often as the red healthy appearance



pearance produced by the application of the caustic goes off. If the ulcer appear stationary, he touches it occasionally in the same way, and, during the cure, dresses it with lint, employs emollient fomentations when the pain is considerable, astringent ones when there is an indolent state, and occasionally the warm bath, bleeding, and opium. Mercury he seldom employs, except when the chancres have continued very long, though he sometimes gives it for a few days when they are nearly cicatrized. His opinion of the inefficacy of mercury he states to have been the result of many trials on the comparative modes of treatment; and says, that in many cases of numerous chancres in the same person, where mercury was employed, some of them were touched with caustic, and others left to themselves, when the former always healed much sooner than the latter. The acids he considers as little appropriate to the cure of chancres as mercury; but he thinks that they are seldom productive of the same general indisposition.

*Swelling of the lymphatic vessels* of the penis, which he has in one case known to advance to suppuration, will generally go off by mercurial frictions on the prepuce and glans. For the cure of *phymosis* and *paraphymosis* he recommends the usual means of diminishing inflammation.

Of the gonorrhœa glandis, or spuria, he has only seen four instances; he says it is often produced by want of cleanliness, and may be cured by the antiphlogistic regimen, and injections to remove the pus which is thrown out. On the question of gonorrhœa and chancre being capable of originating from the same virus, he says, with Hunter, that syphilis may arise from gonorrhœa; but that such a circumstance is very rare, and that the different effects of the same virus are from its varied action on different parts. He has known the same woman give chancres to one, gonorrhœa to another, and both to a third; and thinks that the existence of gonorrhœa previous to syphilis being known, only proves, that there are gonorrhœas which are not venereal. The editor, who adopts an opinion on this much canvassed subject opposite to that of the author, in his appendix gives some experiments made by two young men upon themselves with a view to settle this point. Gonorrhœal matter was introduced under the prepuce upon lint, without doing more than produce violent inflammation and discharges, which went off in a few days; the same followed inoculation with a lancet on the glans; no chancre was produced: when pus from a chancre was introduced on the point of a bougie, four lines within the urethra, a chancre was produced



duced in five or six days, which, although mercury was immediately taken, gave rise to a bubo, which suppurated. Secondary symptoms appeared some time afterwards, and required a considerable quantity of mercury for their removal.

To account for the non-absorption of gonorrhœal matter, and the consequent non-appearance of syphilis, though the parts to which the discharge is applied are furnished with absorbents, he imagines that the gland, through which the matter passes, produces a change in it, and renders it incapable of giving rise to lues venerea; in the same manner as Mascagni demonstrates, that a change is produced on bile, urine, or any other fluids when absorbed, which prevents our being able to detect them in the blood in the state in which they were secreted.

When *buboes* appear, which arise, in general, from an absorption of the venereal virus from gonorrhœa or chancre, we should attempt to resolve them; for, though some are of opinion, that the poisonous matter is by this means absorbed into the blood, yet the author thinks that this termination is a sign of the gland having changed the nature of the venereal matter, and that a state of suppuration, so far from being a proof that the offensive matter is discharging, only tends to keep up its generation. To promote the resolution, mercurial frictions should be employed, so that the mercury may pass through the gland. An ounce, or an ounce and a half, of ointment, will generally effect a cure, though there are some cases which resist the effects of mercury altogether. Fomentations, opium, and the antiphlogistic regimen, are generally proper, though in the milder cases astringents seem to be of service. Ice and snow, contrary to the experience of the editor, seem to the author to do harm. If the bubo suppurate, a small opening should be made in it with a bistory, which should be enlarged after the inflammatory symptoms have nearly subsided. The ulcer which follows varies much in different individuals in the periods of its healing. If the surface is unequal, hard, and white, it should be occasionally touched with nitrat of silver, or bathed with a slightly irritating lotion, as lime-water. So far from permanently increasing the pain, caustic will generally diminish it, by destroying a portion of the nerve comprised in the ulcer. When it is stationary, he recommends the frequent application of lunar caustic to destroy the diseased state of parts, and such a plan of medicine, or regimen, as the general health may require.



The author next proceeds to consider the nature and cure of syphilis, the disease which arises from the passage of the venereal virus into the mass of circulation. In this disease he thinks, that the solids only are affected, and “that the venereal virus carried by the lymphatics into the blood-vessels circulates for some time with the blood, suspended in that fluid, but not dissolved in it. The virus deposits itself on the parts for which it has most affinity, and leaves the blood pure.” The absorption of virus may take place with the occurrence of either chancre or bubo. None of the secretions in a syphilitic patient seem to the author to be vitiated, and capable of producing the disease; hence he thinks that a syphilitic parent cannot beget a syphilitic child. He speaks less decidedly on what may be the occasional effects of the circulation of a female affected with lues venerea being communicated to the foetus in utero, and thinks that we cannot certainly decide the question till the uses of the placenta are known, and its probable power of modifying the blood determined. He thinks, that infants may sometimes get a venereal complaint from an ulcerated vagina; but that they never can take it from an affected nurse, unless she have venereal ulcers on the mammillæ. The symptoms of the general affection constituting lues venerea are very uncertain, nor is the appearance of the ulcers always a sure indication of their nature: it is only by the various circumstances of the case that we can form any decided opinion. Although mercury is in general necessary for their cure, yet, from the good effects of many other medicines, and from some facts on which the author places much weight, he is inclined to believe that secondary venereal symptoms would disappear if left to themselves, provided the patient’s strength were kept up. This, however, we conceive a dangerous doctrine, and contrary to the ample experience of the best practitioners.

Pus seems to the author the necessary medium for the production of syphilis; and he is of opinion, that no bad effects would arise from sexual communication, whatever the general affection might be, if the parts were not ulcerated.

Of the numerous catalogue of medicines employed for the cure of syphilis, the author is disposed to give credit to none but mercury, which he supposes to act by neutralizing the venereal virus. He recommends it to be used in the form of ointment, in such a way that it may pass through the lymphatics of the diseased part. The warm bath is useful before entering upon mercury, and during a course of it; but there



is no occasion for any alteration of diet. As he considers perspiration the most desirable way in which mercury can pass off, he recommends the patient to be kept in a constant warm temperature. Four ounces of ointment will, in general, produce a cure, but it should be employed for a little time after the symptoms have disappeared. He does not consider debility as contradicting the use of mercury. For preventing a salivation, he recommends the cessation of the use of mercury as soon as it appears, the administration of a purgative, and the employment of gently astringent gargles, and of sudorifics. When the ptyalism is considerable, he advises emollient gargles, opium given internally, and sudorifics. When mercury produces a diarrhœa, or pains in the bowels, he omits it, and gives sudorifics and opium.

The author seems to consider it unnecessary for any soreness of the mouth to be produced in the cure of lues venerea, as a sign of the mercury having exerted its proper influence on the system; some degree of it is, however, desirable, and is indeed recommended by the most experienced of the faculty in venereal complaints. The old idea of exciting and keeping up a salivation, for the purpose of evacuating morbid matter, is now exploded; this symptom is, therefore, only to be desired, as affording a proof of the mercury having affected the system.

The author now offers a few observations on the venereal disease in women, in which he recommends the same general plan of treatment, with the exception of the more liberal use of injections in gonorrhœa. He concludes his work by expressing his doubts of the possibility of lues venerea ever combining with scurvy, scrofula, or any other complaints.

The favourite doctrine of the author, that venereal complaints of all kinds would disappear of themselves without future prejudice, though mercury were not employed, seems to us to be, with regard to syphilis, ill-founded and dangerous. It may be admitted in gonorrhœa, for which it is not now thought necessary, by almost any one, to give mercury; but the numerous instances of secondary symptoms succeeding to chancres cured by caustic alone, sufficiently prove, that it is much more prudent, in such cases, to employ mercury to avoid the danger of their occurrence. The author professes to have seen many instances of secondary venereal symptoms cured without mercury; but, as he himself admits that the diagnosis of such symptoms is very uncertain, and as the greater number of experienced practitioners have found mer-



cury the only certain remedy for such complaints, the presumption is, that such as disappeared of their own accord, were owing to some other cause than the venereal virus. The uniform good effects of various other remedies besides mercury, for the cure of the secondary symptoms of lues venerea, which the author adduces as an argument to support his ideas, are not admissible; for most of the remedies which have been so much extolled for removing radically old venereal complaints, have failed in the hands of those whose experience makes their authority most respectable\*.

We may, therefore, still consider mercury as the only remedy which is to be depended upon, and can consequently allow but little weight to the arguments derived from the similar good effect of other substances. On the mode of applying mercurial ointment, we cannot approve of his recommending it to be rubbed eight or ten times only upon the part, after being spread over it, which appears by no means adequate to the proper absorption of the mercury. As the author says that he has never seen a case of venereal blotches, he is of course silent on the diagnosis and peculiar treatment of such affections. May it not, however, be inferred, from this circumstance, that the author's experience on the subject of secondary venereal complaints has not been sufficiently extensive to warrant the decision with which he brings forward new observations?

The Appendix of M. Alyon is principally occupied in controverting the opinion, that gonorrhœa and syphilis arise from the same virus. He gives a favourable testimony of the effects of the acids, and is of opinion, that many vegetable productions can effectually remove old venereal affections. He gives a formula of one which he is in the habit of continually using, and, he says, with the happiest success; it is the following: Take of the roots of common reed (*arundo phragmites*) seven pounds, sarsaparilla cut, seven pounds, passe-flower (*anemone pulsatilla*), aniseed and senna, each one ounce, sugar and honey, each eight pounds; make a syrup. Of this he gives three spoonfuls in the morning, and repeats the dose at noon and in the evening; he orders a large glassful of a decoction made with an ounce of sarsaparilla and common soapwort (*saponaria officinalis*) boiled for half an hour in a pint of water, to be taken after each dose; and at the same time enjoins a nourishing diet and attention to the non-naturals.

\* Vide Pearson on Lues Venerea, noticed in our third volume.



## MEDICAL INTELLIGENCE.

Art. 10. *Supposed new Acid.*

IN Scherer's Chemical Journal, N° XL. is an analysis of some bituminous wood by R. Jamieson, at Freiberg, who supposes that he has discovered a new acid that cannot be crystallized, and which, by evaporation, appears in the form of minute scales, of an acidulous taste. Its combination with lime is of difficult solution. It decomposes the nitrat and acetat of lead; it produces a brown precipitate from sulphat of copper; the precipitate from sulphat of iron is of a deeper brown. The solution with the nitrat of copper takes a beautiful green colour, without any precipitation. It decomposes also the nitrat and muriat of barytes. This acid, mixed with a solution of indigo in the sulphurous acid, produces a fine green colour. It resembles carbonic acid the most, and, when poured on carbon, it forms a brown and bitter substance, which is soluble in water, spirits of wine, and alkaline solutions; it then gives out a very penetrating and aromatic odour. The author thinks that this acid is composed only of carbon and oxygen.

Art. 11. *Caution with respect to vaccine Virus.*

Dr. Jenner, in a letter to Professor Waterhouse, of Cambridge in North America, gives the following as the golden rule of vaccination, viz. "Never to take the virus from a vaccine pustule, for the purpose of inoculation, after the efflorescence is formed around it. I wish this efflorescence to be considered as a sacred boundary over which the lancet should never pass."

Art. 12. *Dr. Mitchill's Observations on the Blackness of Bodies.*

In the fourth number of the American Review and Literary Journal, is an account of some experiments and observations on the blackness of bodies by Dr. Mitchill, who says, "As I was making some experiments the other day with a small thermometer upon bodies of different colours, exposed to the rays of the sun, then shining very bright, I was struck with an appearance I had not so particularly noticed before on the surface of *black* bodies. As my thermometer was lying on the black hair-cloth bottom of a mahogany chair, near the window, in the sunshine, I observed the white light or sunbeam, so refracted as to exhibit the prismatic colours, and reflected, after refraction, plainly to the eye, while those parts of the cloth which



which were not so brightly illuminated, or which were not exposed to the direct rays of the sun, appeared of the ordinary black colour. On moving these black or feebly illuminated parts of the hair-cloth into the sunshine, they likewise reflected prismatic colours; and, on withdrawing them into the shade, the light was refracted and reflected too feebly to be distinguished into colours, and they returned to their former blackness. The quicksilver of the thermometer, lying on the hair-cloth which so refracted the sunbeams, and reflected their prismatic colours, had risen to a height many degrees above the temperature of the parts on which, by reason of feeble refraction in the shade, no colours were distinguishable by my eyes.

“ Here, then, was a confirmation of the common experiment of heat accumulated in *black* bodies exposed to the solar radiance. And there was more than that: there was evidence plainly submitted to my sense of seeing, that a certain black body did not absorb the white or undecomposed rays of light, but did decompose them in a considerable degree, and reflect coloured light of all the iridescent hues to the organ of vision.

“ To know how far this quality of black horse-hair corresponded with other black substances, I exposed *black silk* to the sunshine, and saw the prismatic colours plainly on its filaments. I then examined the *black bristles* of swine, and beheld a similar reflection of colours from their surfaces. Afterwards a *black dyed* hat was exposed to the rays, and rainbow colours were reflected from the sides of the *fur* and *hairs*. Also *black leather* boots, and a *black paper* snuff-box, were iridescent in the sunshine. The like was observable of *black varnish*, the polished surface of which, in the sunshine, was prismatic too. *Black wool* and *woollen cloth*, subjected to the light in the same manner, gave a like result. A *black ink-stand* and a *seal*, of *Wedgewood's earthen-ware*, decomposed the sunbeam, and reflected rainbow colours too; and these, like the rest, when removed beyond the limits of distinct vision, affected the eye with a sensation of *uniform blackness*.

“ What, then, is this *black*, which the Newtonians teach to be a negation or privation of all colour? Why, truly, a very different state of things indeed. So far is a black body from being the absence of all colour, that its peculiar complexion depends upon its being a co-existence of all the rainbow colours. These had undergone refraction on innumerable points, angles, or roughnesses, of an almost infinite smallness. Therefore, these coloured rays being too small, or possessing individually too  
little



little of the matter of light to be vivid, and being too much confused with other colours to be seen distinctly, make up, by their joint operation, the *mixture of colours* which is called black. All coloured bodies possess the power of refracting light in a certain degree, and of reflecting some or other of its hues: and, of all bodies with which we are acquainted, those which are denominated black affect this separation of colours in the most complete manner, by a more minute and exquisite subdivision, and a more scattered and mingled reflection than other bodies present.

“*White* has been defined, by the natural philosophers, to be the presence of all colours, and *black* their absence. It would be much more correct to say, *white is the reflection of solar rays in their compound or undivided state; while BLACK is the reflection of the same rays after an almost infinitely small resolution or decomposition: or, white is the absence of all distinct and sensible colours, and black is the presence of all; or, again, white is the effect of heterogeneous, and black of homogeneous light.*”

Art. 13. *Medical Commencement at Philadelphia.*

At a public commencement held in the hall of the university of Pennsylvania, on Monday, June 8, 1801, degrees of Doctor of Medicine were conferred on ten gentlemen, who presented and defended their respective inaugural dissertations: it is remarkable, that all these dissertations were in English.

Art. 14. *Pestilence opposed by Alkalies.*

Dr. Priestley, in a communication lately made to Dr. Rush, has offered additional proofs of the *acidity of pestilential exhalations*. After observing that these vapours caused pains in the head, violent vomitings, &c. and that they blackened silver and copper, he infers that they must be *acid*, and consequently capable of being counteracted by *alkalies*, as recommended by Dr. Mitchill. This experienced philosopher, who is now enriching America with the treasures of science from his residence at Northumberland, hesitates a little as to the precise constitution of this acid; but concludes, that whatever that may be, *alkaline substances* afford the most rational means of correcting it.

Art. 15. *Conducting Power of Fluids.*

The experiments by which Count Rumford thought he had discovered that fluids were absolute non-conductors of heat, and that therefore any transmission of heat through a fluid downwards is impossible, have excited considerable attention among



among philosophers. Several experiments have been made with a view of determining this question, particularly by Dr. Thomson of Edinburgh, which are described at length in Mr. Nicholson's Journal. The experiment calculated to determine this question with the greatest certainty is that of heating a fluid downwards, by bringing a hot body into contact with its upper surface; but in making this experiment, a source of error is always present in the conducting power of the vessel in which the fluid is contained. When the upper portion of fluid has its temperature raised by the application of a hot body, part of it must flow towards the sides of the vessel, and give out a part of its caloric; the solid matter of the vessel must convey more or less of this caloric downwards, and communicate it to the fluid beneath; and thus caloric may appear to be conducted to a considerable depth, though the fluid may not actually possess a conducting power. In any usual mode of performing this experiment, this source of fallacy cannot be entirely obviated; nor can its effects be estimated with such accuracy, as to determine precisely how far any observed rise of temperature in a fluid is to be ascribed to its operation.

Mr. Murray, Lecturer on Chemistry at Edinburgh, has, however, contrived a method of obviating this fallacy, by employing a hollow cylinder of ice to contain the fluid. In making the experiment in this way, it is evident that no caloric can be transmitted by the sides of the vessel, since it cannot have its temperature raised above  $32^{\circ}$ , and cannot, therefore, communicate any temperature above that to a contained fluid. The conclusion, therefore, seems undeniable, that if in such an experiment the thermometer rise, caloric must be conveyed to it by the fluid interposed between it and the heated body.

On making the experiment with various fluids, the mercury in the thermometer was always observed to rise, which, Mr. Murray observes, could only be accounted for in the supposition that the fluid conducted heat; for the sides of the vessel could not conduct; the fluid was not agitated, no heated current could therefore descend, the mass of warm fluid did not subside to the thermometer, nor was the heat transmitted by radiation. These experiments, therefore, seem decisively fatal to the opinion of Count Rumford.

*Art. 16. Fluoric Acid—Method of obtaining it pure.*

Mr. Accum observes, that fluoric acid obtained in the usual manner, by decomposing fluuate of lime by sulphuric acid in a  
leader



lead retort, always contains lead in solution; as may be proved by mixing the acid with a solution of water impregnated with sulphurated hydrogen gas. Tin vessels are less acted on than those made of lead. The acid has no effect upon silver.

In order to obtain pure fluoric acid, one part of fluor spar reduced to fine powder may be mixed with two of sulphuric acid and one of water. The mixture is then to be introduced into a glass retort, to which a glass receiver has been previously luted, containing two ounces of water. Heat being then applied, the distillation is to be carried on slowly. After the decomposition of the fluuate of lime is effected, which may be known by the disappearance of the whitish vapours in the retort, the contents of the receiver must be filtered, and distilled water added to the filtered fluid, till, on a new admixture of water, no cloudiness appears. The acid thus obtained contains no silex, it is absolutely pure, and may be kept in glass bottles covered within with wax, or, in preference, with a hard varnish.

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ART. I. *Hints designed to promote Beneficence, Temperance, and medical Science.* By JOHN COAKLEY LETTSOM, M. and L.L.D. &c. Three volumes, octavo. 350 pages each. London. 1801.

THE numerous institutions which are to be found in the metropolis for relieving the distresses of the lower orders of society are highly creditable to the English character, and essentially promote the objects for which they are intended. Misery and want too frequently originate from vice and depravity; it is therefore an object with the benevolent mind, not only to relieve the present distresses, but to afford those means of improvement which introduce habits of consideration and industry, and instil, particularly into the younger branches of society, principles of sobriety and good conduct.

The chief aim of the present work is to make known the various establishments which have been formed by the exertions of philanthropic men for the relief and improvement of the lower ranks of society, with the hope that the affluent may be induced to give them that support to which a knowledge of their utility is so powerful an inducement. A small part only of the work is medical; but to the benevolent practitioner many useful hints may be derived on the state of the poor, and the means which have been employed for ameliorating it, of no small importance to him in the exercise of his profession. A medical man has much in his power, if he



chooses to mingle the kind offices of humanity with his professional duties; and we hope that the example of minute attention shewn by the author to various circumstances in which the poor are concerned, will have a good effect upon his brethren in the profession.

While we admire and approve the benevolent principles with which the author is animated, we cannot refrain from observing that he has introduced into his work a considerable quantity of superfluous matter, which certainly gives no additional weight to the effect that may be expected from it. We may remark too, that in the account he gives of the part taken by him in the promotion of various benevolent designs, there is, what to some may seem, an appearance of ostentation, which is always, even as a motive of policy, to be studiously avoided. When, however, the general intentions are so well directed as those of the author, we should be sorry to be scrupulously exact on the detail of execution; we shall, therefore, proceed to give a general view of the objects which come under his consideration, insisting more particularly upon such as are expressly professional.

In the first volume he enters into various details on the immediate effects of poverty, and on the distresses of the poor in the years 1794 and 1795. He here has occasion to point out, which he does at great length, the various establishments of soup-houses, &c. that were formed in order to supply at a cheaper rate, the absolute wants of the distressed poor. It is highly creditable to the sect of which the author is a member, (the Quakers,) that their poor never become burdensome to the community, but are always relieved from the funds of the society; and the author, from this example, lays much weight upon an early attention to the circumstances of distress, by which the individual is relieved at less expense to the public, and with more prospect of advantage to himself. The following observations, which occur in this part of the work, appear to us so just and important, that we shall make no apology for giving them in the words of the author.

“ When the present exigencies of the times are considered, it is not a matter of surprise, that a poor man with a large family, from want of employment, or by the visitation of sickness, should be reduced to extreme indigence. This, however, is gradually incurred; the first step towards poverty, with only trivial aid applied in the instant, is easily reclaimed, and progressive descent prevented: but as distress increases, the difficulty of obviating it is augmented; it is, therefore, of  
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the utmost importance to the community to close the wound, on the first application, with the oil and the honey, before it cankers and becomes incurable. This was the conduct of the good Samaritan, who, without inquiring into the particulars, or after the country of the traveller, generously administered relief. It is this kind of attention to the first appearances of want that enables a religious society to boast, that there is not one distressed person in their community unnoticed or unrelieved. I have often lamented that such a system of conduct, which has uniformly succeeded for upwards of a century, has not been adopted more generally in parishes. On the contrary, the poor supplicant, instead of finding pity and protection, is too often repulsed by those who hold the power of relief in their hands, with threats of a workhouse if they renew their petition, and again urge their necessities. There is a love of freedom in the human breast; it is the birthright and boast of an Englishman, who ill brooks unmerited restraint. A man with such feelings, when oppressed with unavoidable want, is apt to ascribe every instance of neglect to a contempt of his poverty, and thus chagrin of mind is added to his other miseries. It is, therefore, the duty of those in higher stations to treat the poor with peculiar tenderness, even where they cannot grant their requests; and with respect to persons intrusted with the care and provision of the poor in parishes, the immediate extension of relief, when first required, would not only render the distressed object happy, but eventually save accumulated expenses to the community; it would enable him at an easy rate to stem the present torrent, encourage him to future exertions of industry, and thus preserve him from becoming a lasting burden to the parish, and a real loss to the public."

In the next sections of the work we find an account of the Society for bettering the Condition and increasing the Comforts of the Poor; and of that for the Discharge and Relief of Persons imprisoned for small Debts.

The volume is concluded with hints respecting female character, and relative to the prevention of infectious fevers, and the establishment of houses of recovery.

On the last-mentioned subject it is unnecessary to add any thing to what we have before said in various parts of our publication, particularly in the account given of Dr. Murray's Essay, and of that of Dr. Haygarth, to which we refer our readers.

The second volume commences with hints respecting a Samaritan Society, in which is mentioned an establishment for



the purpose of giving relief to persons on their discharge from the London Hospital, who have not friends or money to support them until their complete recovery.

The volume is occupied with hints or observations on crimes and punishments; wills and testaments; on a female club and lying-in charity; on a village society, particularly alluding to the social intercourse of Camberwell; on the support and education of the deaf and dumb children of the poor; on the employment of the blind; on the monument erected to Mr. John Howard in St. Paul's Cathedral; on the establishment of a society for promoting useful literature; on conduct to female servants; on religious persecution; on humane societies for the recovery of drowned persons. In the respective sections now enumerated are given the regulations of the female benefit club and lying-in charity established by Mrs. Priscilla Wakefield; of the Deaf and Dumb Society; of that for the relief of the blind; of the Literary Fund; and of the Royal Humane Society.

The first section of the second volume is a copy of the Essay on the Cow-pox, published some time ago by the author, and already noticed in our Review. The second comprises hints addressed to card-parties; the third contains an account of the establishment of schools for extending education to the poor, in which Sunday schools are particularly noticed.

The fourth contains a particular account of the Philanthropic Society in St. George's Fields.

The fifth is on the utility of dispensaries, in which the laws of the General Dispensary of Aldersgate Street, as being the first ever instituted, are inserted.

The sixth is entitled Hints on the Bite of a mad Dog, or rabid Animal. This comprises two cases which appeared in the fifth volume of the Memoirs of the Medical Society of London; the first by Mr. J. Haynes, and the second by W. Norris, Esq.

The seventh contains the regulations of the Sea-bathing Infirmary at Margate.

The eighth consists of hints for the establishment of a medical society in London, in which the laws of the Medical Society of London are given at length.

The volume concludes with suggestions respecting a substitute for wheaten bread, in which there is stated to be a great saving by the use of a certain quantity of Indian corn.

It is proper to remark, that many of the papers which we have noticed were inserted, at the time they were written, in  
some



some periodical publication, and are only now collected together for the more particular use of the author's scientific friends abroad. The work is accompanied with engravings and silhouettes of many of the author's literary and medical friends. We are promised a fourth volume, more particularly in the department of medical science.

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ART. II. *An Account of a new Mode of Operation for the Removal of the Opacity in the Eye, called Cataract.* By SIR JAMES EARLE, F.R.S. Surgeon Extraordinary to the King, and senior Surgeon to St. Bartholomew's Hospital. Octavo. 68 pages. London. 1801.

THE methods of removing the opacity of the crystalline humour of the eye, and thereby adding or restoring the use of the most valuable of all the senses, present to us some of the most ingenious and beautiful operations which the art of surgery has invented for the benefit of mankind. We have to lament, however, the imperfection of art, in not being able at all times, and under every circumstance, to meet the difficulties which stand in the way of the operation, or concur to render it abortive. The respective operations of couching and extraction have each their particular advantages and inconveniences, and practitioners have not yet entirely determined on giving a constant preference to either.

The author of the small pamphlet before us, whose name has often appeared before the public as a very zealous improver of the operative part of surgery, here proposes a new method of extracting the cataract, in which he expects to combine the advantages of both the methods now in use, and to avoid the inconveniences of each.

He begins his treatise with a very succinct account of the mechanism of the eye and the uses of its several parts, and then proceeds to a description of the different operations of couching and extracting, with their respective imperfections, and the accidents by which they are often rendered fruitless. These are detailed with sufficient accuracy, and are such as must be familiar to every one who has attended to what has been written and done by others on this subject.

To couching, the objections urged are, 1st, the difficulty of depressing every opaque part of the crystalline or its capsule, owing to the smoothness of the instrument, and the soft unresisting nature of the medium in which the pressure is made:

2d,



2d, a great increase of this difficulty when adhesions take place between the lens and the iris, and the extreme danger of producing so much effusion of blood from wounding some of the vessels of this membrane, as to prevent the operator from seeing what direction the instrument is taking; and thus to oblige him to discontinue the operation: and, 3d, the circumstance of the opaque lens rising again after depression, when it had not been broken down and absorbed, and by occupying its former place rendering the operation futile, which; indeed, may be repeated without additional hazard.

The degree of firmness which a cataract may be expected to possess from external inspection, and its supposed *ripening*, have been points much controverted. The author thus expresses himself on this subject: "It was generally agreed, that it was necessary to wait till the cataract was firm before it could be a fit object for the couching needle. This state it was often impossible to ascertain; and accordingly I have often seen the needle of an experienced operator pass through and through without making any impression on a cataract, which he had pronounced to be firm. With regard to waiting till a fluid cataract should become firm, that was certainly an erroneous idea; for in many cases, I believe I may say in general, when the opacity of the lens is formed by the softening or dissolution of it, such cataract very rarely alters its nature, or becomes firm; and indeed it should be considered, that if there were a chance of this being the case, all the while the operation is delayed the patient suffers the ills that attend so distressing a situation."

In this summary view of the objections to be urged against the operation, we think the author (though he has mentioned the subject) has hardly, in this place, sufficiently adverted to the extensive powers of absorption within the eye, which often gradually, after several weeks, or even months, remove from the centre of vision any opaque portions of the lens; or its capsule, which may be left after the operation.

With regard to extraction, the author urges the following objections: 1st, the greater difficulty in performing it, and the superior dexterity required in the surgeon, which must confine the practice to a smaller number of operators: 2d, the spasm liable to be produced in the iris by the passage through the pupil of a very large diseased lens, which may either lacerate this membrane, or to a degree paralyse it, or occasion staphyloma by its protrusion: 3d, the danger of wounding the capsule of the vitreous humour, and  
of



of causing the escape of much of its substance, by introducing the blunt hook, or any similar instrument, in order to bring away any remaining portion of the capsule: and 4th, a failure of the union of the wound in the cornea by the first intention, which prevents the reaccumulation of the aqueous humour, and generally ruins the eye irretrievably.

The above are certainly a formidable train of objections; and every operator, even the most skilful and experienced, has occasionally felt their weight by a failure in his undertaking.

The author then proceeds to the principal part of this treatise, a new method of performing the operation, which may, as much as possible, combine the advantages, and avoid the evils, peculiar to each of the two modes of operating.

The history of inventions or improvements in any art, and the useful hints received from different labourers in the same cause, is always a matter of some importance to relate. We shall give it here in the author's own words:

“ Extracting the cataract, for reasons which have been given, appeared preferable to couching: my first thoughts, therefore, induced me to aim at the improvement of that operation; and it occurred to me, that if it were possible to extract the cataract by any other way than through the pupil, a very material point would be gained, as we should by such means avoid disturbing and injuring those delicate and tender parts of the eye, which are so peculiarly essential to the perfection of vision. It was obvious that this could only be accomplished by an opening behind the iris; and, pursuing this idea, I conceived that by the same route through which the couching needle is made to pass, an instrument might be introduced which should be capable of taking hold of the cataract and extracting it.

“ With a view to learn what had been done by others for any such purpose, I consulted authors, and conversed with practitioners; but, though they were profuse in directions how to divide the cornea, and extract the cataract through the pupil, I could meet with none who had ever attempted to bring it out by any other way.

“ Mr. Bell, in his *System of Surgery*, describes the difficulties attending the usual methods of extracting the cataract, and conceives that the failure of sight, which, he says, often follows this operation in a little time, proceeds from violence done to the iris. This, he remarks, is a membrane of the most delicate texture; and, as the pupil through which the cataract is forced, is not nearly large enough for admitting the lens



lens to pass with ease, this can seldom be accomplished without great hazard of injuring this very nice and useful part of the eye. In various cases, he observes, the iris is torn in different places, and appears to be irregular in its contraction and dilatation from the time of the operation being performed; and proceeding upon this idea, he thinks that it would be an object of great importance to extract it by any other manner, that would not expose the iris to be injured, and that it may be done by opening behind this membrane, instead of making an incision in the usual place in the lucid cornea; and he observes, that it would be attended with this advantage, that no inconvenience would ensue from the cicatrix. Mr. Bell says, he has performed the operation in this way on other animals; but imagines that it has never been put in practice in the human eye. If it ever should be performed in this manner, he recommends an incision to be made about the tenth of an inch behind the transparent cornea, of sufficient size to let the cataract pass, and then a sharp-pointed hook to be introduced, to stick into the lens and bring it away.—I cannot say that this method appeared to me completely eligible, as the hook seemed ill adapted to get hold of the lens and bring it out through the incision; or, if it should accomplish that, it could not command the little floating parts of the capsula which might be left; and as it had not been sanctioned by experience, I did not feel inclined to adopt it.”

The author then proceeds to mention the idea of a split needle to act like a forceps, suggested in Heister's Surgery; the construction of which, however, is obviously very faulty, and liable to great objections. He adds: “Mr. Hodson, an ingenious and scientific practitioner at Lewes in Sussex, also shewed me a needle, which he had invented with a view to remove any portion of capsule which might be left after couching, or which might afterwards become opaque. Mr. H. informed me he had not made any trial of it; but as it was constructed similarly to that described by Heister, it was of course liable to the same objections.

“As none of these methods completely met the idea I had conceived, of the practicability of extracting the body of the lens behind the iris, the subject continued to engage my attention, which has at length succeeded in the contrivance of an instrument which I hope will be found not inadequate to the purpose.”

The instrument here proposed by Sir James Earle consists of  
“a small spear-pointed lancet, of a proper breadth, which  
introduces



introduces a pair of fine forceps into the globe of the eye, and, when sufficiently inserted, the sharp or spear point, by means of a spring, is withdrawn, leaving the forceps behind; with these the cataract may be gently seized, made to quit its connexions, and be brought away through the opening; and thus is completed the whole of the operation.

“ To use this instrument properly, it is necessary to observe that it should be passed in through the coats of the eye, just behind the iris; when it has passed, and the forceps are sufficiently introduced, the lancet is to be made to retire, and the forceps are to be carried on till the blades appear behind the pupil, when they are to be retracted a little, then gently opened, and the cataract to be seized with as small compression as may be without suffering it to escape; the forceps are then, together with the cataract, to be brought out of the eye. If the lens be not sufficiently firm to bear the pressure of the forceps, or if, from any other cause, the whole be not taken away by the first extraction, the instrument may be again safely introduced through the opening, without the point, and in general with ease; but if the tunica conjunctiva be of a loose texture, and covers or hides the opening through the sclerotica, a small fine director may be first passed to facilitate its re-introduction.”

The idea of using a small forceps instead of the needle is certainly very judicious; for, as the author justly observes, even where the lens cannot be *extracted* by this method, from any unusual circumstance, this instrument becomes a very good couching needle, which is so blunt as not to endanger wounding the iris, and possesses infinitely superior convenience to the common needle, in removing parts of the opaque capsule which may be floating within the eye, and more especially in detaching the cataract from any adhering part of the iris, which is, in all cases, the greatest difficulty attending the operation, in whatever way it may be performed.

The descriptive part of this treatise is concluded by the following comparative view of the two methods of operation:

“ It may appear extraordinary to persons unacquainted with the cause, but it is a fact, that, though any minute particle lying on the external coat of the eye causes so much uneasiness, by creating friction in the motion and action of one part of the coat on the other, the passage of an instrument through all the coats gives very little pain; so that, except the tunica conjunctiva, the sensibility of which is not great, unless increased by irritation, the other coats appear to



be insensible. This is a most pleasing circumstance respecting the operation; but what is of more importance, is, that the part in which the incision is made is immoveable, consequently the edges of it must remain in contact; and, as it is covered with the tunica conjunctiva, which is moveable, the wounds through the different coats can scarcely ever remain exactly opposite to each other; the opening being thus covered and closed, there can be no escape of either the vitreous or aqueous humour, and it must consequently heal with facility by the first intention; and the happy result of these favourable coincidents is, that the operation is really followed with very moderate inflammation.

“ All these circumstances are very materially different from having to attend to the management and disposition of a large *moveable* flap of that most important part of the eye, the cornea transparens; and besides, when it is considered that in this operation the iris, or pupil, can never receive the smallest injury or molestation, I make no doubt that it will be allowed to possess manifest and great advantages.

“ Indeed I am much inclined to think that this instrument is calculated to embrace the advantages, and to avoid the inconveniences, attending all the operations which have hitherto been practised on the eye for the removal of the cataract; and, considering the subject in every point of view, I have great reason to hope, that, by these means, an operation of the first importance to mankind, which has hitherto been big with difficulty and danger, will be rendered comparatively easy and safe; and that it will be found capable of being executed by any practitioner who possesses an accurate knowledge of the structure of the eye, has cool judgment, and a steady hand.”

Willing as we may be to allow a balance to be drawn in favour of the new method of operation proposed here, we cannot but observe that the author has not enough adverted to a point which has been thought of some consequence; we mean the difference of the parts wounded in the respective operations, when performed in a skilful manner, and without any untoward circumstances attending either. In *extraction* the only part wounded by the knife is the cornea, and in the greater number of instances no violence of any importance is done to the iris, or any of the adjoining parts. In *couching*, the needle, in passing to the eye behind the ciliary ligament, pierces in the same wound *all* the coats of the eye, and therefore, *cæteris paribus*, it cannot but be supposed that the subsequent



sequent inflammation will be greater and more hazardous. The author must be aware, that in this respect his proposed operation resembles the *latter* of the two above-mentioned methods. Likewise, when he asserts that in his mode of operation the iris, or pupil, *can never receive the smallest injury or molestation*, we surely must take this assertion with some limitation; for (allowing a competent degree of skill in the surgeon) the cataract is, after all, to be got rid of; and when adhesions between the iris and the capsule of the lens are to be separated, a degree of force *must* be employed by pulling with the forceps, which may be more than that delicate and vascular membrane can always bear without suffering material injury.

In the author's description of his improved operation, it might appear to the reader, that when the lens is sufficiently firm to bear the grasp of the forceps, it might be extracted *entire* through the wound of the tunics of the eye in which the instrument was introduced, as is often the case in common extraction. This, from an inspection of the size of the instrument, is obviously impracticable, (unless it is given in the plate smaller than the reality, which does not appear;) but where the opacity is in the capsule of the lens, and the crystalline itself is in a fluid state, we apprehend this circumstance to be of no importance, as the fluid humour, when diffused over the eye, will readily be absorbed, and the capsule, when emptied of its contents, may then be drawn out in a collapsed state through the wound. Perhaps, in a contrary state of the lens, the smallness of the opening might prove some inconvenience.

Added to the description of the new operation are three very instructive cases, in which the author had the satisfaction of experiencing complete success. The first was a youth of 17 years of age, who was born blind of cataracts in both eyes. In the left the case appeared very favourable for operation, but in the right the iris did not move freely, owing to adhesion to the cataract. The left was the first that underwent the operation; the crystalline humour was perfectly fluid, and was diffused on applying the forceps, and the capsule was extracted. The milky suffusion of the crystalline was absorbed in a few days, and a complete cure was effected.

The operation was then performed on the right eye; the opacity proved to be a somewhat tender membrane adhering to the iris, which was separated by the forceps with some difficulty, but broke, and was brought away in part, and in



part depressed. This case also succeeded very well, after a moderate inflammation.

Sir J. E. met with the same disappointment which many inquirers have experienced, in attempting to investigate from these cases some of the curious questions so valuable to the metaphysician, concerning the connexion between the sensations of sight and feeling. When this patient was beginning to acquire the use of sight, "his eyes," the author observes, "were rolling about like those of a new-born infant, and he could with difficulty fix them on any object: when, however, he had once fixed them, he could retain them in that situation. But though he could discern objects, he could not judge of distances; and, on discovering a shilling on a table, he made several attempts with his hand, which wandered either laterally, or too far or too short, before he could take hold of it. This disagreement, however, between the action of the hands and the eyes grows less; the eyes gain strength, and are less wandering. He has been fitted with spectacles, which, within their proper focus, much assist him. I was curious to observe the effects which the first impression of objects produced on his imagination, and in what situation they appeared to him; but my inquiries generally proved nugatory. I was not so fortunate in that respect as Mr. Cheselden, in the case which he has related of a young gentleman who was born blind, and received his sight. His patient was intelligent, sensible, and capable of explaining his ideas so well, as to attract the particular notice of the celebrated author of the *Essay concerning Human Understanding*.

"With regard to the subject of the present memoir, after every attention and observation, I only discovered that his stock of original ideas had probably been small, that no pains had been bestowed to improve them, and from a soil so barren and uncultivated little was to be gained."

The second case was that of a negro in St. Bartholomew's Hospital, who was in a dying state from consumption, but at his own earnest request the operation was performed. The cataract divided into several pieces on using the forceps, of which the greater part was brought away piecemeal, but a small portion was left in the anterior chamber. After some days this was absorbed, and the cure was quite completed just before the patient died. After death the eye was examined; no appearance of cataract could be traced, and the space before occupied by the crystalline was filled with perfectly clear and transparent vitreous humour. In the other eye an  
incipient



incipient cataract was found. In the operation on this patient a larger forceps was used than in the preceding.

The third case was similar to the former. The patient (a young woman 22 years old) had been blind about eight years. The operation of extraction had been performed on the left eye, but the pupil had fallen down to the bottom of the cornea, so as to defeat the end of the operation, though the cataract had been removed. In the right eye the author performed his operation with success, bringing away part of the cataract, and leaving part to be absorbed.

We should not omit to mention the following deviation from his former method of operating, which the inventor here practised. "In the cases preceding the last, the instrument was passed in through the coats of the eye vertically, and parallel with the edge of the cornea, and the operation succeeded well, as has been shewn. However, in the last I introduced it in a horizontal direction, which method, from experience, I now prefer, for this plain reason, that when the lancet is retracted, the forceps may be easily turned vertically; and then the more they are expanded to seize the cataract, the closer they keep the sides of the incision together, by which means any considerable discharge of the humours is absolutely prevented; and the wound made in this direction heals with the same facility as in the other. It is scarcely necessary to observe, that, when the forceps are to be brought out, they should again be in a horizontal direction."

Two plates are added to this treatise; one shewing the extent of wound in the cornea made by the usual mode of extraction; the other illustrates the new method of operation which it is the object of this work to explain. The latter plate would have been much more satisfactory to those who are not quite familiar with instruments, if the forceps-lancet had been represented in more than one point of view.

The author takes the opportunity (in a note) of being before the public, to recount those improvements in the practice of surgery which he has been the means of introducing to the world. The value of these has long been fully experienced by practitioners, and we doubt not they will not hesitate to add the present work to the honourable list of meritorious exertions, in a profession of all others the most exclusively devoted to the good of mankind.



ART. III. *GULIELMI HEBERDEN Commentarii de Morborum Historia et Curatione.*

(Continued from page 270.)

**T**HERE are few subjects on which the opinions of medical practitioners have been more divided than the Bath waters; analysis of these waters has thrown but little light on their medicinal properties; and being thus deserted by chemistry, we can trust to experience alone to decide on their efficacy. The sentiments of our venerable author, therefore, must have considerable weight.

“ Usus horum fontium vel extrinsecus, vel intus est. Tum quoque vel totum corpus immergitur, vel in exiguam ejus partem aqua impellitur; quo pacto contractionibus musculorum, et aliis distentionibus succurritur. Adversus levia cutis vitia balneum aliquid prodest, vix remedii nomen meretur. Nondum mihi constitit debilitatem, quæ rheumatismum, arthritidem, aut paralysin sequitur, ocyus finiri per balneum Bathonicum, quam sine illo. Nonnulli mihi visi sunt infirmiores esse facti lavatione tepida; quibus frigida longe fuit utilior. Quicquid est, nihil interesse puto aqua Bathonica, an quævis alia pariter tepida corpori extrinsecus admoveatur.

“ Aqua Bathonica potata certissime medetur nausæ matutinæ et vomitui, fastidio, doloribus ventriculi, atque aliis ebriosorum malis, nisi hæc eo usque creverint, ut vel hepar factum fuerit scirrhusum, vel hydrops immineat; tunc enim adeo non proficit, ut res ægri faciat deteriores, mortemque properet. Adversus alia quoque ventriculi et viscerum mala sæpissime profuit, sic ut operæ pretium fuerit omnibus ad eam confugere, quotquot laborant cruditate, diarrhœa longa, singultu, inflatione, vomitu, et qualibuscunque distentionibus, vel doloribus, vel debilitate horum viscerum, modo pulsus sit naturalis. Etenim ubi nulla fuerint febris hecticæ signa, locus mihi datus est nunquam suspicandi Bathoniam his ægris nocuisse; quanquam eorum votis non semper responderit. Tamen haud facile est intellectu, quam ob causam exitus prosper quibusdam defuerit.

“ Multi periti et sagaces medici intus uti præcipiunt aqua Bathonica contra vagos dolores, rheumatismos, et icterum simplicem ubi hepar est integrum. Verum, ut propriam consulam experientiam, Bathonia in his morbis tuta quidem est, at supervacua. Plus laudis obtinuit in colica Pictaviensi; et tamen difficile est dictu, quo demum hujus morbi statu Ba-



thonii sit adeunda. Nam initio, dum intestina torminibus dilacerantur, longe valentiora remedia necessaria sunt, ad dolorem compescendum, et periculum summovendum. Finito autem impetu, si artus non resolvantur, æger jam valet, et medicina omnino non eget, modo in posterum aditus plumbi in ventriculum possit intercludi.

“ Prorsus enim assentior sententiæ viri summi Georgii Baker, qui invictis rationibus stabilivit plumbum esse unicam ejus morbi causam; quanquam haud ubique liceat investigare, qua via intus receptum sit. Post gravissimas colicæ accessiones, e quibus æger tandem assurrexit, modo causa manifesta sit, et potuerit vitari, corpus ad integram sanitatem venisse vidi, et multos annos permanisse nullis obnoxium torminibus; sic ut par fuit credere nulla morbi semina superfuisse. Quinetiam ubi morbus longus fuerat, artusque resoluti, eorum debilitas paulatim imminuta est, et dolores non reversi sunt, postquam æger vinum Ulyssiponense potare desiisset, cujus libram quotidie potam colicos dolores intulisse conjeceram. Quod si introitus hujus veneni in corpus detegi et præcaveri non possit, tum neque Bathonia, nec quævis alia remedia impedient quo minus redeant tormina, et æger lenta morte pereat. Cum vero tantum in ventriculum demissum est, ut accessiones colicæ faciat repetitas, et tandem artus resolvat; si quis tunc putet aquam Bathonicam morbum posse extinguere, et vires amissas restituere; his equidem conjecturis nihil habeo quod vellem opponere, et nemini sanè aquam Bathonicam interdicere: procul dubio enim tuta est, neque aliud cognovi remedium, quæ hujus morbi semina, si quæ restent, efficacius extinguat. Præterea in omnibus morbis longis, aquæ istæ, modo tutæ sint, et æger non gravetur ire Bathoniam, multa secum commoda ferent. Scilicet mutatio cœli, et intermissa vitæ consuetudo minus salutaris, depositæque curæ et negotia, ut fit Bathoniæ, multum conferent ad valetudinem a morbis confirmandam.

“ In scirrhis et exulcerationibus pulmonum, aut ventris, aquæ Bathonicæ sunt perniciosissimæ. Nam intendunt calorem febrilem, qui his malis fere semper accedit, atque omnem spem salutis funditus tollunt. Quapropter hujusmodi ægroti iterum iterumque monendi sunt Bathoniam fugere longe, nisi se velint, in summo semper periculo versatos, reddi deploratos, ac prope depositos.

“ In affectibus qui vocantur hypochondriaci et hysterici, ægri sive extrinsecus, seu intus utantur his fontibus, plerumque ex iis pejus habent. Nullos memini adjutos fuisse, nisi  
eos,



eos, qui vexati fuerant doloribus ventris, inflatione, aut acore, quod genus malorum illis interdum morbis accedit. Neque sane vita, qualis Bathoniæ agitur, negotiis omnibus soluta, convenit ægrotationi, quæ ex otio nimio, sæpius quam ex nimis occupationibus, consuevit oriri. Fit tamen interdum, ut negotiosi quoque affectu hypochondriaco exercentur. Vexationes enim in rebus agendis natæ, animum interdum adeo implicant et irretiunt, ut se expedire non possit, nisi in quodam tranquillo secessu, qualis est Bathonia; ubi vacuitas molestiæ et curarum ægris medetur, quamvis aqua ferat honorem. Idem contigit in languore illo, et virium defectione, quæ morbos longos sequuntur; quibus spatium et quies unice medentur.”

With respect to the Bristol water, the Doctor expresses a doubt whether it has more efficacy in the cure of phthisis, than in that of any other disease.

The chapter “*De Calculo Urinæ*” contains many valuable facts and remarks; which, however, are too numerous to be extracted. In the enumeration of remedies for this afflicting disease opium is placed foremost; but it is not denied that much benefit may reasonably be expected from aqua calcis and aqua kali puri. Indeed instances are adduced of these medicines manifesting decided power; and to shew that patients should not too hastily relinquish the use of the latter of them, Dr. H. mentions the case of a man, who, by taking half an ounce of it every day for ten years, at length passed numerous fragments of stone, and was enabled to exchange close confinement and excruciating continuance of pain for regular exercise and long intervals of ease. With regard to abstinence from acids during a course of these mineral lithontriptics, he doubts whether it has not been more rigidly enforced than is necessary, especially as we have no evidence of their effects in the mysterious laboratory of the human body.

On the subject of chronic cutaneous diseases, much as remains to be said and discovered, we meet with few observations that are either new or important. For the cure of these diseases, in general, bark and mercurials are principally recommended; in some cases, the Doctor saw much benefit derived from a course of gentle saline purgatives.

The following remarks commence our author’s history of a disease, which he very justly denominates “*malum Herculeum*.”

“Epilepsia, pari jure ac arthritis, opprobrium medicorum dici potest: nam ante tempora Hippocratis nota est, et tamen



tamen certam medendi rationem nondum recepit. Ingens numerus remediorum ad epilepsiam, quæ in libris medicorum inveniuntur, et in omnium ore sunt, suspicionem morbi insanabilis movere debet. Quam difficulter removeatur, sive prudentibus consiliis eorum qui famam suam amittere timent, seu temerariis ausis aliorum qui existimationem aliquam obtinere student, manifestum esse puto ex eo, quod perseveravit usque ad mortem in multis, quorum ea fuit fortuna, ut possent, ea vero desperatio et credulitas, ut vellent nihil non experiri. Ratio longe plus fecit, quam medicina, ad mitigandum hoc Herculeum malum; quippe obsoluerunt tandem fabulæ illæ fictæ et commentitiæ, quibus opinio hominum hunc morbum præter omnes cumulaverat; nec diutius timor et superstitio, præterquam quas habet ipse calamitates, suas addunt. Jamdudum cessarunt homines epilepsiam ad iram dæmonis referre, tantumque illam portentum existimare, ut propterea comitia dissolverentur, et quicquid negotii in manibus esset, continuo omitteretur: neque conjuncti et amici epilepticum jam, ut olim, horrent atque refugiunt, et ægrum gravius affligunt quam vehementissimæ morbi ipsius accessiones."

A subsequent passage places in a still stronger point of view the author's distrust of medicine for the positive removal of this disease; it is but one of *many* melancholy evidences of the present impotency of the medical art.

"Ægris multo adhuc pejus consulunt, qui venam incidunt; quod corporis quidem vires minuat, non autem morbi. Remedia nunquam opportune adhibentur, nisi inter accessiones. Cum vero nulla certa adhuc reperta sunt, quibus multum confidere possimus, præstabit plerumque nihil aliud moliri, nisi ut vires quam maxime integræ et incolumes conserventur. Quod si vel medicina, vel ratio victus id effecerit, ut habitus corporis firmior fiat, sperandum est facultatem illam sui conservatricem valentior fore, et epilepsiæ causas promptius amoturam esse."

On the nature of fever the author offers no speculations, nor, in fact, does he even attempt a definition of the term. After having remarked that it may be either idiopathic, or concomitant of other diseases, and that the curative means ought to correspond with the varieties of its type, he proceeds at once to take notice of the remedies suited to its several symptoms and stages.

"Febres ardentes, quales fiunt ubi peripneumonia, pleuritise est, aut faucium, intestinorum, aut aliarum partium inflammatio, raro sanantur sine detractioe sanguinis copiosa



et repetita. Febres castrenses, et quæ harum similes sunt, rarissime postulant, aut ferunt venam incidi; sed in initio permagni interest vomendo ventriculum purgare, quod non obscure indicat nausea quæ illo tempore ægrum fatigat. Ad hoc utilis est ipecacoanhæ in pulverem tritæ scrupulus cum ammonii tartarisati grano uno; unde non solum stomachus vomendo, sed plerumque etiam alvus dejiciendo purgatur, non sine multo febrientis commodo. Hoc medicamento nausea penitus discuti solet, et eodem repetito vix unquam opus est. Sæpe etiam principio dolor est in capite molestissimus, ad quem emplastrum cantharidis inter scapulas impositum præsentissimum remedium est. In dolore faucium, pleuritide, et peripneumonia, emplastra quoque cantharidis multum conferent ad inflammationem mitigandam: neque minori præsidio sunt in febribus malis, ubi majorem in modum ægri languent; animos enim addunt, et vires jacentes excitant. Stranguriam, quæ ex his interdum oritur, levabunt olei, vel aquæ, uncia sex et tincturæ opii guttæ viginti in alvum infusæ. Si venter profluat, iis remediis comprimendus est, quæ capite xxv. supra proposita sunt. Quod si nimis astrictus sit, infundenda est aquæ libra in qua liquata est salis purgantis semuncia. Jactatio, et vigilia, sæpe solvuntur fomentis aquæ tepidæ, capiti, vel pedibus admovendis; juvant etiam guttæ binæ vel tres tincturæ opii sexta quaque hora sumptæ. Calorem, sitimque cohibebunt aqua pura, et quælibet potiones tenues. Languor, atque animi jacentes vinum postulant, aut misturæ camphoratæ cochleare plenum subinde bibendum. Singultus, et leves artuum distentiones, agitationesque, moscho interdum levantur; quanquam autem moschus aliquantum valuerit ad distentiones compescendas, quanquam et camphora in quibusdam somnum movisse visa sit, multo tamen sæpius et hæc et ille fuerunt prorsus inutiles. Memini camphoræ scrupulum datum esse febrienti sexta quaque hora, et simul moschi tantundem quater etiam in die horis inter priores mediis, neque ventriculum gravabant hæc medicamenta, sed nihil profecerunt vel ad tollendas distentiones, vel ad somnum moliendum. Cujuscunque generis fuerit, ægri ipsius judicio permittendum est, modo mens constiterit, surgat, an in lecto se contineat.

“ Remedium febrium continuarium proprium, seu specificum quod aiunt, adhuc, nisi fallor, desideratur; licet id diligenter quæsitum sit, maxime inter ea quæ fiunt ex antimonio. Sed in tanta febrium varietate non verisimile est unum aliquod medicamentum posse reperiri, quod omnibus pariter conveniat. Primis hujus morbi diebus, remedia ex  
antimonio



antimonia mitiora, quæ vomere faciant, et ventrem solvant, summo certe sunt auxilio; nec tamen comperi ea magis prodesse, quam quævis alia, quæ pari vi alvum et stomachum sollicitent. Multis expertis et sagacibus medicis persuasum est antimonium non solum exinaniendo ventriculum, et principio morbi, sed quovis tempore utile esse, licet nec vomitus, neque dejectiones, neque sudores sequantur. Nimirum in ea sunt opinione, antimonium secreta quadam facultate præditum esse, qua fit ad febres proprie effluax. Horum itaque judicio tantum tribui, ut antimonii tartarisati granis quatuor in aquæ distillatæ unciiis quatuor dissolutis, dederim drachmas duas ex aquæ sesquiuncia sexta quaque hora. Pauci ferent majorem modum sine nausea. Quod si duæ etiam drachmæ, ut interdum fit, vomitum moveant, commode dividuntur in partes duas, quæ interposita semihora sumendæ sunt. Hoc equidem medicamentum in multis ægris expertus sum; tamen vis antimonii febrifuga mihi parum comperta est.

“Corticem Peruvianum dare, nisi absente febre, medici diu metuerunt; sed et urgente febre recentiores sæpissime illum dederunt in gangræna, atque ad suppurationem benignam promovendam. Unde didicimus suspicionem periculi a cortice, etiam sub ipsa febre adhibito, fuisse non minus vanam, quam multas alias suspensiones, quas majores nostri de utilissimo hoc remedio sparserunt. Itaque copia, quæ annis abhinc centum in Angliam advecta est, decies minor, quam quæ nunc, erat. Quo autem magis eum cognovimus, eo minus periculi, plus vero auxilii afferre credimus. Quamobrem intra hos paucos annos sæpe tentatus est in febribus quoque continuis; ad quas quantum profuerit incertus sum; detrimentum autem inde provenisse nunquam suspicatus fui, ne quidem cum drachma assumpta fuerit quarta quaque hora.

“In omni febre plurimum interest, ut aër cubiculi sit purissimus. Nam auram salubrem hauriendo maxime recreantur animi; et vereor ne quidam ægroti non tam morbo suo perierint, quam halitibus putribus, quos discuti vetuit præpostera amicorum cura.

“Britanni, nescio quibus de causis, summopere metuunt ne ægrotantes frigus colligant: tanquam gravedo, si alteri morbo superveniret, certam necem afferret. Expetendum est profecto, ut ægri nullo novo malo onerentur, et proinde aliqua cura adhibenda est, modo non sit nimis sollicita, ne fiant gravedinosi. Qui autem jam in morbo sunt, non ideo frigori colligendo magis sunt opportuni, quam sani; neque porro destillatio, si accadat, morbos alios in tam certum periculum præcipitat,



præcipitat, ut non sæpe expediat ei ægrum obicere, potius quam aditum omnem aëri puro ac saluti intercludere. Cognovi ægrotum, qui erumpentibus variolis delirus factus artus suos corpusque adeo jactabat, ut nullo modo detineri potuerit, quin sæpe nudus esset, et frigus quoque colligeret, quod manifestum fecerunt destillatio atque raucitas; tamen, quantum intellexi, hoc adventitium malum neque maturitatem variolarum impedit, nec febrem auxit, neque sanationi omnino obstitit. Nec vero tantummodo utile est, aërem cubiculi sæpe renovare, sed etiam vapores putres corrigere, instillato aceto in vas ferreum calefactum, donec exhalatione acida totum cubiculum repleatur."

It may be collected from the above extract, that Dr. H. entertained no small partiality to the use of Peruvian bark, which he does not fail to recommend also in other parts of the work, with more confidence, perhaps, than he attached to any other medicine, or than practitioners in general, of the present day, may be disposed to participate in for the cure of any disease whatever. Yet in referring to it as a reputed remedy for hectic fever he abates somewhat in his commendations, and suffers doubts to escape him whether it be more than *safe* even in cases of abscess and gangrene.

We are unwilling to omit presenting to our readers the remarks which occur relative to the cure of dropsy.

"Ardua res est aquas hydropicas amoliri sive per alvum, sive per urinam, sudoremve. Quod si medicamenta optatum auxilium attulerint, et omnis aqua fuerit effusa; tamen multum supererit agendum, atque æger in eodem periculo versabitur, nisi morbus, a quo pendebat hydrops, vel natura, vel arte sublatus sit. Illud vero admonendi sunt, quotquot purgatione alvi opem ferre his ægris student; eorum vires morbo suo multum fuisse imminutas, ideoque non esse perseverandum in medicamentis valentioribus, nisi manifestum fuerit ægros inde levare, vel saltem non lædi. Ubi hydropicus par sit ferendo tam validum remedium, solitus fui dare elaterii granum unum, vel duo, quod commode sumitur ex cochleario spiritus vini tenuioris. Hoc, si nullos insolitos tumultus excitet, et venter multum aquæ excernat, quarto quoque mane dare oportebit, donec omnis humor supervacuus exierit; at diebus a purgatione liberis medicamentum aliquod amarum et aromaticum erit sumendum. Hac ratione medendi quatuor vel quinque asceticos restitutos novi; e quibus unus vixit sanus quatuordecim annos. Idem fere valet gambogiæ semisrupulus. Quanquam magnitudo hujus morbi magnum remedium postulet,



tulet, id tamen sæpenumero ægri vires sustinere non possunt: in quo casu confugiendum est ad ea quæ lenius alvum solvunt, quæque movent urinam. Ad hoc utilis est scillæ radix, cujus tot grana sumenda sunt, quot stomachus sine nausea recipere valet. Aromata jucundiora, vel olea quæ vocantur essentialia, vim ejus movendi vomitus cohibebunt, reddentque majorem modum satis tolerabilem. Hujusmodi medicamentum singulis noctibus sumendum est; singulis autem auroris, kali acetati drachma dissoluta in uncia tincturæ sennæ; vel salis Rupelensis, aut kali tartarisati, semuncia: omnes ni sales, qui vocantur neutri, quantum adhuc usu didici, urinam pariter movent.

“ Fieri potest, ut debilitas ægri, vel alvus ejus fusior, locum purgantibus nullum relinquat; et proinde ab iis rebus quæ movent urinam tota curatio petenda sit. Hanc quidem facultatem non paucis medicamentis tribuerunt medici veteres, eaque posteris suis hoc nomine commendarunt. Fatendum autem est horum omnium effectus adeo leves esse, et incertos, ut quisquis iis multum confidat, spe sua sæpe exciderit. In hoc numero sunt balsama acriora, quorum scrupulus bis quotidie sumtus est; item kali præparati tantundem in aqua, aut in vino dissolutum. Hoc pulchrius multo remedium est, quam quod habet cineres herbarum ex vino liquatos; quippe eorum vis non continetur in terra fatua, verum in salibus alcalinis, quibus hi cineres abundant, cum aliqua simul portione salium neutrorum, quos multæ plantæ crematæ exhibent. Parem facultatem habere existimantur spiritus ætheris nitrosi, et tinctura cantharidis; hujus guttæ viginti, illius drachma, ter quotidie adhibetur. Succus etiam ex foliis cinaræ expressi cochlearium cum vini Rhenani cochleariis tribus nonnullorum sermone celebratur.

“ Ubi hæc, et multa alia quæ vocantur diuretica, frustra, ut plerumque sit, tentata fuerint, quidam conati sunt aquam educere incisis cruribus, vel super ea impositis emplastris cantharidis: interdum quoque sponte sua vesiculæ in cruribus hydropicorum nascuntur. His auxiliis haud exiguam aquæ copiam elicitam vidi, morbum autem nunquam sanatum: at brevem moram injecerunt, et aliquantulum ægrum levarunt. Odiosum est quod hæc vulnuscula interdum fiunt ulcera sanatu difficilia, vel periculosa, quanquam bis aut ter quotidie pannis laneis ex aqua calida expressis foveantur. Fomenta quoque utilia sunt ad aquam copiosius evocandam. Non raro quoque oportet aquam ferro emittere; cum venter in tantam molem assurgit, et humore adeo distenditur, ut fere rumpatur, et  
spiritus



spiritus vix trahi possit. Licet vero ex hoc foramine omnis aqua exeat, tamen inter quamplurimos qui sic levati fuerunt, vix unum et alterum memini, quorum morbus non redierit, quive indies labefactatis viribus non extincti sint; quippe, ut antea dictum est, hydrops tantummodo signum est alterius, et plerumque pestiferi morbi.

“ Quibusdam contigit esse adeo felicibus, ut primo morbo incipiente ire in melius, fons hydropis suppressus sit, et ægri ex valetudine ancipiti assurrexerint. Inter ea etiam, quæ raro, et præter omnium spem, in hoc morbo eveniunt, poni debet incredibilis urinæ copia, quæ sua sponte repente effusa interdum intra paucas horas tumorem penitus solvit. Nimirum facultas est quædam incognita in corpore animali insita, quæ humorem omnem in ventre conclusum absorpsit, atque in renes vertit. Exitus hujusmodi a natura sola profectus, potest quidem immeritum honorem attulisse remediis, quibuscunque hoc tempore æger utebatur.

“ Nonnullos hydropicos cognovi, quos cepit cupido ab omnigena potione abstinendi; quod facere sustinuerunt quadraginta dies, aut amplius. Hoc tamen non adeo bene cessit, ut alios hortari possim eandem curandi viam insistere. Quosdam etiam audiavi ab omnibus potionibus temperasse per sex menses. Oleum olivæ, aut seminum ricini, mane et vespere frustra illitum est abdomini multorum hydropicorum, propterea quod unus aut alter, qui hoc remedium tentarant, morbo suo, ut aiebant, liberati sunt. Hydropem recessisse ultro induobus cognovi, quorum alter incidit postea in apoplexiam, alter delirus factus periit.”

Hypochondriacal and hysterical affections are considered as having so close an affinity, as not to require being treated of under distinct heads. The following passages relative to these diseases deserve attention no less on account of the sagaciousness of the observations contained in them, than of the perspicuousness and elegance of the diction.

“ Vetus admodum opinio est hominis naturam contineri ex corpore, facultatibus naturalibus, et mente. In fœminis hystericis facultates naturales præcipue perturbantur, et pervertuntur; in viris mens ipsa magis laborat. Itaque inter illas maxime dominantur nolentium vociferationes, defectiones animæ, et distentiones omnis generis; inter viros autem tacita desperatio. Ea quoque causa esse potest cur viri in hoc morbo crebrius, quam fœminæ, eo insanix adigantur ut necem sibi consciscant,

“ Nonnulli,



“ Nonnulli, qui contendunt curas atque gaudia inter omnes homines æqualiter fuisse divisa, opinati sunt languorem animorum sortem esse divitum et otiosorum, et eorum felicitatem ita temperare, ut horum beatorum vita non sit magis expendenda, quam eorum qui labore sibi victum quærunt. Attamen nequaquam verum est pauperes, et laboriosos, et humili loco natos, ideo tutiores esse, minusque huic morbo objectos. Interdum a parentibus traditur, et semina ejus nobiscum simul nata justo tempore non cessant erumpere, qualiscunque fuerit vitæ conditio. Languor animorum haudquaquam incognitus est operoso colono, quem prohibet gustare ullam partem voluptatis, quæ laboris finiti præmium esse debuit. Non corporis firma constitutio, non temperantia, neque negotia, neque, quod nonnullis videtur, arthritis præstat homines securos ab hoc malo. Tamen illi procul dubio sunt opportuniore qui se prorsus a rebus agendis abstrahunt. Nam otium non solum alet, sed etiam creabit affectum hypochondriacum: nec non idem facient nimia negotia. Immodicus usus Veneris, vinique perniciosus est in hoc morbo; neque utilis est nimia cibi abstinencia. Crebræ fræbres, alvus diu fusa, terror, atque tristitia, non raro initium dant huic affectui, etiam in iis qui non fuerint ad illum natura proclives.

“ Morbus hypochondriacus, pariter ac arthritis, insania, et phthisis, non solet esse molestus ante pubertatem. Ex illo vero tempore usque ad senectutem nullus est annus, in quem primus ejus impetus non incidit. Rarissimum est ut hi ægri pejus se habeant vespere, quam mane. Nam plerique, tanquam qui aliis nervorum affectibus implicantur, somno utcunque exiguo lædi videntur; et quo diutius dormiunt, eo magis animo concidunt. Nonnulli, cum primum expergiscuntur, vix sunt apud se, et omnis corporis animique sensus confusos habent; aut si minus laborent, tamen nihil nisi luctuosa et acerba cogitant, cum hoc potissimum tempore tragœdias suas excitat hic morbus. In eodem fere statu ægri sunt, aut non multo meliori, usque ad prandium; tum demum incipiunt respirare, et aliquantum recreari; vespere autem animi in tantum reficiuntur, ut interdum nimii sint; quibus frui cupientes, et horrentes angorem, qui per quietem redit, non nisi sero et inviti lectum petunt.

“ Cognovi tres homines qui in exploranda et olfacienda thea occupati, tremoribus atque aliis hypochondriacis malis afflicti sunt, quæ omnia theæ imputarunt; rectene, an secus, viderint alii qui ampliores prædicti sunt occasiones perspicendi quid in hac re verum sit.

“ Tempestates.



“ Tempestates anni videntur nihil valere vel ad exasperandum, vel ad levandum hunc affectum; qui etiam quamvis cognatus est epilepsiæ, insanix, et paralyti, haudquaquam tamen consuevit in illos morbos desinere.

“ Ea est conditio hujus ægrotationis, ut qui ea laborant, semper desperent de recipienda sanitate: sed huic desperationi usus et ratio vehementer repugnant. Etenim, quantum sensibus nostris patet, singulæ corporis partes inter tantas misérias integræ manent et illæsæ. Mens quidem, et facultates naturales opprimuntur, jacentque; sed nulla accepta est injuria, quæ eas in pristinum statum restitui prohibeat. Tum hypochondriaci sæpe præ se ferunt colorem vultumque sanorum, neque corpus, nec robur amittunt: ad hæc, intermissiones sunt, in quibus fruuntur omnibus integræ valetudinis voluptatibus. Ingenium autem illis adeo non fit tardius, ut secundum Aristotelem omnes ingeniosi sint melancholici. Sponte quoque sua interdum finitur hic affectus; feruntque hypochondriaci, qui viginti annos ab eo liberi vixerunt. Æger vero certe est in bona spe, nec fiduciam illi deesse oportet, cum morbus periculo vacet, et nequaquam sit insanabilis; quo etiam finito, valetudo pariter erit integra, ac si vir nunquam ægrotaasset.”

With respect to remedies for these dreadful visitations, we find only the usual enumeration. The author's abhorrence of “*vinous potation*,” however, displays itself here in the most marked manner, and, in bringing opium into competition with it, he avows a decided preference to the favourite drug of the East.

“ Multi ægritudinem ex animis marcentibus vino et potionibus meracioribus cupiunt expellere; quod etiam ut faciant, amici, qui illis bene quidem volunt, sed male consulunt, haud raro hortantur. Vix dici potest quantum instet periculum, ubi ægri vel animo suo in hac re indulgent, vel amicorum improvidis consiliis parent. Breve quod sic nascitur solatium, nimis care emitur incremento languoris mox subsequenti: tum quoque vini modus indies augendus ut animi pariter recreentur, totam valetudinem miserabiliter perturbat conquassatque. Quod si angor major fuerit quam qui tolerari possit, et proinde opus sit præsentem remedium, satius erit ex opio, quam ex vino, petere auxilium. Paucae guttæ tincturæ opii cum vino antimonii, aut cum tinctura asafoetidæ, aut etiam per se sumtæ, præsidio erunt animis languentibus multo tutiori quam vinum; neque si augeantur, valetudini perinde nocebunt, neque hominem rebus agendis omnino minus aptum reddent:



reddent: ad hæc, longe facilius est ægrum tandem ab opiatis remediis abducere; quod longo usu didici. Nemo nescit hæc contra evenire vinolentis."

This is an opinion to which, perhaps, there will not be general assent, nor will the advocates for wine fail to place on their side of the account the nausea and other unpleasant effects which so often arise from the use of opiates, even in the smallest doses. Our author does not hesitate to recommend opium in the cure of *ileus*. We extract his remarks on this subject because they are founded on experience, a principle which must supersede all objections of a speculative nature, and which produces the most valuable of all accessions to the stock of medical science.

"Opium a quibusdam rejicitur in hoc morbo, quoniam omnia narcotica faciunt intestina torpere, et propterea hebetant facultatem remediorum, ex quibus ægri salus speranda est. Contra alii defendunt opii utilitatem, quia vomitum cohibet, sic ut stomachus possit retinere eum medicamentorum modum, qui multum superet torporem a narcotico profectum. Præterea opium prodest distentiones moderando, motusque musculorum inordinatos compescendo. Et ægri vigilia fatigati, et angore confecti, perdurare vix possent sine benigno hujus succi auxilio. Hæc mihi perpendenti ea sententia multo potior visa est, quæ opium contra ileum prodesse statuit, quam quæ nocere: eamque usus haud mediocriter confirmavit. Opii beneficio prospere dedi medicamenta, et plura, et valentiora, quam sine illo ventriculus tulisset: tum quoque vires ægri somno recreatæ sunt; atque etiam ubi salus ejus prorsus desperata fuerit, et angor summus cruciaverit, opium utique solitudinem aliquantum levavit. Mors quidem neque serius, neque citius venit, sed tamen minore cum cruciatu. Magnus ille veræ philosophiæ instaurator, Verulamus, queritur studium euthanasie medicis haud satis cultum fuisse. Medici profecto munus est, ægrotis sanitatem reddere; cum tamen ex lege naturæ erit tandem unicuique mortalium ægrotatio nulla arte medicabilis, benevolæ hujus artis professoribus conveniret, mortem inevitabilem, quantum fieri potest, terrore omni spoliare; et ubi non datum est prædam morti extorquere, sed vita necessario amittenda est, operam saltem dare, ut cum minima crudelitatis specie amittatur."

It may not be useless to subjoin the sentiments of so distinguished a physician on the subject of *hernia*, which is so often accompanied by all the symptoms of the disease just



alluded to. A late event that has called forth general concern renders the remarks on the operation particularly interesting.

“ Ileus interdum fit cum hernia; in quo casu, siquidem id facile possit fieri, intestinum in ventrem reponi debet. Verum dubia res est, an multus labor huic operi impendendus sit. Incertum enim est, hernia necne sit sedes, vel causa inflammationis; cum ileus sæpe incidit sine hernia, et hernia diu manere potest sine ileo. Itaque inflammatio quoque cedere potest, licet hernia permaneat: quemadmodum sæpe nascitur, ubi nulla fuerit hernia. Postremo ileus perseveravit, et in mortem desiit, etiam ubi intestinum rite fuerit repositum. Ut res est, omnis violentia in reponendo intestino vitanda est, quippe quæ augeret, potius quam minueret inflammationem. Abunde constat ramicem non necessario impedire purgantium effectum; et ubi is est copiosus, æger securus esse potest sanitatis brevi redituræ.

“ Annulum, per quem intestinum descendit, ferro dividere raro convenit, cum propter multa, quæ ante præcepta sunt, tum aliis quoque de causis. Nam metuendum est, ne remedium anceps adhibeatur justo citius, vel plenum doloris justo serius; et, puto, nobis nequaquam suppetunt documenta, quæ ostendant quibus ægris, et quo morbi tempore, scalpellum proderit, et præterea nihil.”

(To be continued.)

ART. IV. *A medical Glossary: in which the Words in the various Branches of Medicine are deduced from their original Languages; properly accented and explained.* By W. TURTON, M.D. Editor of Linnæus's *Systema Naturæ*. Second Edition. Quarto. 622 pages. London. 1802.

“ **MEDICINE**, like all other arts,” (as the author remarks in his Preface,) “ has its distinct family of terms and idioms, conveying meanings peculiar and appropriate to its several branches; and the very numerous sources from which these have been collected, have made it not easy for its professors sufficiently to understand the language of their science.” A dictionary defining the import and determining the pronunciation of these terms, if correctly executed, cannot but be extensively useful, since a large majority of medical men are very lightly (and many not at all) acquainted with the learned languages, and indispensably need some such second-hand aid as is afforded by an alphabetical glossary.



With respect to the work before us, we think it has been made unnecessarily bulky. It may with more propriety be entitled a *Dictionary of Natural History* than a *Medical Glossary*, the names of animals and plants, and the terms employed by botanists, constituting the main matter of the volume. We have noticed many articles which can scarcely be said to have any connexion even with those collateral sciences, and which have relation rather to fabulous history and the works of the poets than to the writings of physicians. The following are examples, viz.

“CENTAU'RUS (κενταυρος, quasi κεντων ταυρος, i.e. the bull of the Thessalians). An animal feigned to have been half a man and half a horse, but which Galen refutes.

“CY'CLOPS (κυκλωψ, from κυκλος a circle, and ωψ the eye). A person having but one eye, and that large and round, and in the middle of the forehead. Such a monster has been described by Borrichius.

“JUNÓNIS FLOS (the flower of Juno). The lily was so called, because it was feigned to have sprung from the milk of Juno.”

The gravest doctor must smile if he should stumble upon the article MULIER.

“MU'LIER (Shakespear defines it in this manner: ‘The piece of tender air thy virtuous daughter which we call mollis aer; and mollis aer we term it mulier.’ Cymbeline). A woman.”

Thus far, however, there are no substantial reasons for reprehending our author; and, on the whole, we are disposed to give him considerable credit for the industry which he has displayed; but we think it our duty to point out some important and almost inexcusable errors; in accentation, the following would disgrace a schoolboy.

“NOSOCÓMIUM, an hospital.” The original Greek word νοσοκομειον is surely a sufficient evidence that the *i* must be long:

“NOSODÓCHIUM,” (from νοσοδοχειον,) a parallel case.

“PRÍAPUS.” Has the author forgotten,

“Cum faber incertus scamnum, faceretne Priápum,

“Maluit esse Deum.” HOR. Sat. viii. Lib. ii.

“PU'DICUS (from pudor modesty). Belonging to the private parts.”

Here surely he could not have been conscious of the word he was writing.



We shall again content ourselves with quoting a Roman poet, and leave our readers to determine whether they will have the latter for an authority, or Dr. Turton.

“Odisti claves, et grata sigilla pudico.”

HOR. Epist. Lib. iii. l. 20.

“U’RTICA (from *uro* to burn, because of its heating sting). The nettle.”

“Hæc tetigit, Gradive tuas urtica nepotes.”

JUV. Sat. ii. l. 128.

We have given sufficient proofs that our author has cultivated no acquaintance with the Muses. Let us now see whether he has studied to any better purpose a book which he professes to have translated, viz. the *Systema Naturæ* of Linnæus.

“MADREPÓRA (*μαδρεπώρα*, from *μαδος* smooth, and *πωρος* a pore). A plant, smooth like coral, and distinguished from it by pores or perforations in its branches.”

If we refer to Dr. Turton's translation of the illustrious author above mentioned, we can find the *madrepore* (correctly) defined as follows, viz.

“MADREPORA. *Animal* resembling a medusa: coral with lamellate star-shaped cavities.” *Madrepore*;

LINN. *Gen. Syst. translated by Dr. T.* vol. iv. p. 616.

“SE’NECA (so called because the Seneca or Senegaw Indians used it against the bite of the rattle-snake). The serpentaria, or Virginian snake-root.”

Because the *Polygala Senega* (of Linn.) grows in Virginia, and because it has been supposed to be a remedy for the bite of the rattle-snake, the author has thought proper to confound it with the *Aristolochia Serpentaria*, or Virginian snake-root, a plant deriving its appellation solely from the resemblance of its root to the tail of that animal.

“ASTE’RIA (*αστηριας*, from *αστηρ* a star). A precious stone; so called because it shines like a star.

“ASTE’RIAS (*αστηριας*). The same. Also the bittern; so called because it is spotted.”

Dr. T. is the first mineralogist that has applied the above names to such a substance, and we are inclined to think that he had forgotten having had occasion to define them otherwise in his translation of Linnæus; if he had not, he should at least have informed us, that besides the precious stone there was



was also an *animal* of the molluscou tribe (rather better known to naturalists than the former) bearing the same appellation.

Our readers must not conclude that the errors which we have enumerated are all that can be found, for we could certainly increase the catalogue without much labour of search. What we have pointed out will be sufficient to put them on their guard, and to shew, as the author has not been correct in definitions and accentations which demanded only a superficial knowledge of the corresponding subjects, he certainly must not at once be trusted in others which require more recondite learning.

ART. V. *An Inquiry into the Efficacy of Oxygen in the Cure of Syphilis. To which are subjoined, a few general Observations on its Application in various other Disorders.*

By CHARLES PLATT, Surgeon to the New Finsbury Dispensary, and Member of the Royal College of Surgeons, London. Octavo. 99 pages. London. 1802.

THE subject of the present essay has for a considerable time ceased to excite any particular interest among medical men. The confidence with which some practitioners recommended oxygen in various shapes, from experiments which seemed ample and decisive, afforded the expectation that a remedy was found, which, if it was not in the great bulk of venereal cases more successful than mercury, possessed, at least, powers less inimical to the constitution, less disagreeable in their effects, and which, in some cases, were able to remove symptoms for which mercury was ineffectual. To what circumstances can be attributed the difference of the effects of acids, as employed by various practitioners of eminence, we own ourselves at a loss to determine, and should be glad if they could be reconciled, as the author thinks they can, without impeaching the veracity of either party. On this subject the author observes, that “it may be regarded as a circumstance of peculiar singularity, that those who have written on this interesting subject, though in direct opposition to each other, may both, to a certain extent, be correct in their conclusions. This opinion, without explanation, may appear rather paradoxical; but, if we consider the great variety of diseases, the parts most obnoxious to the venereal contagion are liable to, and the almost invariable practice of referring



referring every diseased appearance of those parts to a syphilitic source, I think the difficulty will cease, without arraigning the veracity of either party."

In the general observations on gonorrhœa virulenta and syphilis we find nothing particularly striking. The author gives a summary of Mr. Hunter's theory on the different effects of the venereal poison, applied to secreting or non-secreting surfaces; but though he considers it as ingenious and well founded, he is disposed to doubt its originality, from a passage in Astruc, in which he attributes the different effects of the venereal virus to "the different force of the poison acting upon the parts, and the different structure of the parts upon which the poison acts."

The author makes a few observations with a view to prove the insufficiency of Mr. Bell's opinion, that the poison of gonorrhœa and syphilis are essentially different—*adhuc sub judice lis est*, nor do we conceive that practitioners will be soon agreed upon this subject. We think, however, that the author has not brought forward, or replied to all the arguments of Mr. Bell in favour of the doctrine supported by him, particularly when he states, that gonorrhœal matter may be applied to an extensive ulceration on the glans without producing syphilis, and that the matter of chancre is frequently applied to the orifice of the urethra without producing symptoms of gonorrhœa.

After giving a brief history of the introduction and progress of oxygenous remedies, the author proceeds to the detail of his own experience on the subject. Eight cases are given, in which nitrous acid, oxygenated muriatic acid, or oxygenated muriat of potash, were employed without effect. The symptoms were, in six of them, primary, in one secondary; and in one the primary and secondary were united.

The author notices various local ulcerations of the genitals, which may occasionally be confounded with venereal affections, and particularly alludes to the difference between sibbens, or yaws, and syphilis. Sibbens, says he, "was never known to appear in the form of gonorrhœa, nor seldom at first upon the genitals, but more frequently primarily attacking the throat, or some part of the mouth, attended with an erysipelatous redness of the amygdalæ, uvula, and velum pendulum palati. If not prevented by the use of mercury, ulcers form on these parts, and commonly spread more quickly than venereal ulcers: the uvula and amygdalæ will sometimes be entirely destroyed in the course of a few days. It is particularly



cularly apt to affect the internal part of the nose, and the ossa spongiosa soon become carious. After the system has been contaminated with this peculiar virus, the genitals become affected, and the parts contiguous to the anus. But the most characteristic symptom of this disease, is a soft spongy excrescence, in size and colour resembling a common rasp, which is apt to appear on all such parts as either become ulcerated, or are attacked with any kind of eruption; *sivvens* or *sibbens* being in many parts of the Highlands a name for the wild rasp.

“ It was the opinion of Dr. Gilchrist, that this disease seldom attacked the large and solid bones, and very rarely any of the others. He has seen it in every part of the body, and in every form in which *lues venerea* appears, except in *chancres* upon the genitals.

“ Such is the description of a disease, which many consider as a variety of syphilis; and though, in some particulars, it assumes a strong resemblance to that complaint, yet in others it differs very essentially.

“ It has been remarked, the *sibbens* was never known to appear in the form of gonorrhœa, nor to produce originally any disease about the genitals. These are two circumstances so very different to what usually succeed the venereal contagion, that this alone would almost incline one to deny the identity of the two diseases, were we not furnished with some other evidence. The uvula and amygdalæ of those attacked with the *sibbens*, have been known to have been destroyed in a few days; this extraordinary destruction of parts has, I believe, never yet been discovered in the true venereal ulceration. The *lues* produces diseased actions without any critical termination; the *sibbens*, on the contrary, it has been observed, has its crisis and termination, though its periods, from being longer than some fevers, appear more irregular. The *sibbens* is much more infectious than the common *lues*; the former spreads itself through villages and towns with a rapidity unusual in the latter, and the ulcerative process is infinitely more destructive.

“ From its assuming so much the appearance of a cutaneous affection, it has been considered by some a combination of the itch and syphilis, while others are disposed to attribute its violence to the angina maligna engrafted on the *lues*: by some again it has been thought to be a distemper of a bestial origin.

“ The great success that *hydrargyrus muriatus* has been attended



attended with, in the cure of sibbens, only proves that mercury may be usefully employed in other complaints as well as the venereal; both the curative and prophylactic methods encourage the idea that sibbens is a peculiar cutaneous disease, propagated by the absorption of a morbid poison, but which essentially differs from the venereal."

Among the characteristics of a chancre, the author considers an *almost total want of pain*, which he says has not been noticed by any author whom he has had an opportunity of consulting. Mr. Bell, however, observes, "that venereal ulcers are not commonly attended with much pain;" and Swediaur distinguished ulcers of the parts of generation which are not of a venereal nature, from venereal ones, "by their exquisite sensibility; which necessarily implies that venereal ulcers on the penis are not in general very sensible. We may remark, that the chancres on the prepuce are much more painful and sensible than those on the glans itself.

"Upon the most careful and deliberate review of the subject," says the author, "I cannot but be of opinion, that although these remedies may occasionally be usefully employed as auxiliaries; yet in no single instance where syphilis has been unequivocally marked, did the saline substances appear entitled to any specific quality."

In his observations on the pneumatic doctrine, the author takes a short view of the various hypotheses which have, for a time, been supported by the weight of authority, and then sunk forgotten to oblivion. He considers the utility of the gases as extremely problematical, and recommends the cultivation of remedies of known and experienced efficacy, rather than of such as have only novelty or hypothesis to recommend them.

In the work of which we have now presented a general account to our readers, we do not find much either to blame or to commend. The author certainly deserves credit for his endeavours to settle the public opinion, on doubtful subjects; but we do not observe that he has added much to what has already been done by various writers, or that his sentiments are different from those which are now generally entertained among professional men.



ART. VI. *The Outlines of the veterinary Art; or the Principles of Medicine, as applied to a Knowledge of the Structure, Functions, and Economy of the Horse, the Ox, the Sheep, and the Dog, and to a more scientific and successful Manner of treating their various Diseases. The Whole illustrated by anatomical Plates.* By DELABERE BLAINE, Professor in Animal Medicine. In 2 vols. octavo. London. 1802.

THIS work, containing upwards of thirteen hundred generally ample pages, is divisible into the following principal branches: The History of Medicine in general, and of veterinary Medicine in particular, with an Account of the Veterinary College—Chemistry—Living Matter, or Comparative Anatomy—The Anatomy of the Horse—Description of the Fluids—The Practice of veterinary Medicine and Surgery, with Observations on Shoeing—An ample Index.

We have here a very extensive compilation, in which the professional opinions entertained, and the practice recommended, obviously depend, in respect of their worth, on the soundness of the authorities adopted, and on the author's judgment in the selection. In regard to dogs, since Mr. B. keeps an infirmary for those animals, it is fair to presume he has had sufficient experience from his own practice. Mr. B. had previously published the anatomy of the horse, republished in this work, in which he professes the parts treated of have been most of them taken from his own dissections. So far he has a fair claim of originality. The drawings appear extremely correct, are executed in the most handsome manner, and the descriptive part is very extensive. It remains to the veterinarian, interested in the inquiry, to determine, whether at all, or to what degree, this anatomist has improved upon his predecessors of the continental schools, or our own.

The commercial part of book-making, and the heaping tract upon tract, with the bare repetition of the same subjects and the same ideas, the style and the arrangement of matter perhaps, in certain degrees, varied, has been long and often reprobated; but, in our opinion, totally without reason, since such license is indissolubly connected with the general liberty of the press, since the elucidations of judicious compilers, or of such as have a practical knowledge of the subject, may be important, and since the progression of only one single degree beyond the previous limits of science, must be an ample



countervailing advantage. It is on such grounds, and such only, that we can pretend to form a judgment of the merits of the work before us.

Mr. B. has unaccountably run into the prevailing error of the day, which the veterinary reader will recollect we have before censured in several other writers: we allude to the general condemnation of all our veterinary writers previous to the establishment of the College. Now, making due allowance for the lights which we must necessarily have received from the labours of our predecessors, and for the improvement which ought naturally to result in the lapse of time, such a conduct would barely be little and uncandid, granting a real superiority were clearly proved: but what if, after a number of attempts, and most of them on truly insignificant grounds, no such case hath hitherto been made out? For the honour of our cotemporaries, and the general benefit of mankind, we should rejoice to see this superiority fully established; but the rash and unadvised attempts of the present author prove no such thing; on the contrary, we fear they have a manifest tendency to injure the cause he meant to support, and to entangle himself beyond all power of extrication.

In the introduction, consisting of the usual topics, the author professes (p. 9) "to diffuse generally the benefits of a scientific investigation of this subject; and to teach that art among all ranks of persons, which the Veterinary College is attempting among individuals." Such a profession is perfectly rational, and such, doubtless, ought to be the proper and legitimate aim of his work; but when, in the next page, we are told of "the very few authorities he could borrow from, and the difficulty of accumulating information on his subjects," we are chagrined at a declaration so unguarded, in a book superabounding with authorities, and in which nothing of novelty is to be discovered. In the mean time, we are willing to concede the palm of diligence to Mr. B. and to give him credit for the information which he has sought from the most enlightened practitioners, and for the visits which he has paid to the best regulated infirmaries of this and other countries.

The history of medicine contains nothing particularly interesting to medical students; and to others, it is obvious, such bare sketches can afford little, but the indulgence of a mere transitory curiosity. There is considerable utility in his catalogue *raisonné* of foreign veterinary writers, which may direct the attention of the English student to new sources of information.



information. The observations on Solleysell (p. 43) are sufficiently in that writer's favour, whose physiological and medical knowledge were not of the most enlightened kind, and whom, in those particulars, we are inclined to rate considerably behind his cotemporary, our countryman Snape. Mr. Blaine has, however, spoken with becoming liberality of Solleysell.

The history of our English veterinary writers takes up a considerable number of pages, the utility of the contents of a great part of which will be much questioned. The accounts of the early English writers, and indeed as far as that author had proceeded, appear to have been taken from the work of Mr. John Lawrence, who is pointedly attacked, in various places, by Mr. B. and made to publish the strange declaration, that he was ignorant of veterinary medicine whilst writing expressly and copiously on that subject. This Mr. B. has failed to substantiate.

The following attack on Gibson and his cotemporaries, will be easily appreciated by those who will be at the pains of comparing their works with the present and other late treatises. Page 59, it is insisted, that "Mr. Gibson and his contemporaries, and indeed the whole of his predecessors, always began where they should have ended: they gave rules for the treatment of diseases, but they never taught what disease was, by explaining the structure, functions, and economy of the animal body when in health. His predecessors out of question, Gibson gave an useful compendium of the anatomy of the horse, with occasional plain and common-sense theories, unincumbered with useless and transitory hypotheses, and well adapted to that rational system of practice which was generally the result of his own long experience: of the *essential* parts of that system, little, indeed, has been superseded by the most improved practice of the present times: such opinion, however, ought not to be taken on trust by the veterinary pupil."

Bracken, full of theory and reasoning, a pupil of Boerhaave, and of the French anatomical school, cannot surely come within Mr. B.'s intention in the above quotation; nor Osmer, whose theory and practice on the foot of the horse, and shoeing, are most prevalent at this hour; yet these men are often styled ignorant by Mr. B. and other late writers. The attack on Mr. Taplin was surely superfluous, after the severe criticism on his work by Mr. Lawrence. The same may be said of a long and tedious account of two insignificant pamphlets, the



productions of a cow-leech and a farrier: it is, in truth, paying Professor Coleman a poor compliment, to suppose his reputation in need of defence against such an attack as was made in the latter pamphlet. The memory of the late St. Bel is not spared by this writer, chiefly, as it should seem, an account of the opinions that glanders were "local affection," and of certain presumed pathological errors. St. Bel, however, was appointed to the professorship, because he was known as a practical veterinary surgeon.

Section VII. on the exterior conformation of the horse, is extracted generally from the French writers, correct or otherwise; but wherever we meet with the author's own ideas, they do not serve to impress us with the proof of his great experience in horses, or horsemanship. We allude to what he says of "the usual system of bearing on the bridle" in English horsemanship: here, being half-informed, even as a theorist, he is perfectly unconscious that he is shooting quite wide of his mark, although, unfortunately for him, every sporting reader must perceive it.

The present is not the first time, as our readers will perceive, that we have been drawn, right or wrong, by authors on veterinary medicine, into a discussion of this kind.

Mr. B. seems to have caught the trotting mania from the author he so often quotes. Twenty-nine miles in two hours and a half, the pace too chosen by the horses themselves, and a lady-driver! Surely the lady had left her stop-watch behind. But, alas! reviewers are not often in the habit of driving their curricles.

Page 311. We are taught, "a flat-sided horse is always without much carcase." An experienced horseman would have informed Mr. Blaine, that horses of that shape have frequently bellies like a cow. The subsequent observations, in the same page, would have been better omitted; it is true, they serve as another index, were that needed, of the difference between the arts *de parler et de sçavoir*.

At once to dismiss the relatives of this branch of the subject, we shall make a transition to p. 742, vol. ii. where, on the subject of shoeing, this author says, "I candidly own, I am not fully prepared to give a decided opinion on the subject; but, from my opinion of the Professor's abilities, I am disposed to think highly of any improvement he may offer." On the practical subjects of lameness, spavins, windgalls, thrushes, grease, broken wind, spaying, &c.



&c. &c. a candid declaration of a similar kind would have extremely well become Mr. B.

Page 455, vol. i. (Angiology.) The author very justly observes, "it must ever be remembered, the pulse is subject to great varieties, and exhibits very different states, even in the same disease, not only in different subjects, but at different periods in the same subjects." We will add, also, in healthy subjects of the same age and size, and in precisely the same circumstances; hence the contrariety of opinions at which Mr. B. seems surprised. On this head he has made some useful observations; but the recommendation of a lancet calculated for the horse, and an account of its constant successful application, would be worth a number of speculations on angiology.

Page 92, vol. ii. exhibits a striking example, in a long note, of that practice which we have so frequently reprehended, of arrogating, in high words at least, a superiority over former writers, and in which too frequently the high words are a substitute for consequence. On that most trifling and inconsequential subject, the excision of cuticular excrescences under the tongue of the horse, enlargements of the paps, or barls, a practice which has been pursued for ages without a single recorded instance of dangerous consequence, of which, indeed, it would be ridiculous to entertain a suspicion, the author declaims, *à cathedra*, with as much warmth as if the very essence of veterinary surgery were at stake. Bracken is called ignorant of the anatomy of the horse! and yet Bourgelat, whose science Mr. B. allows, has also fallen into the pretended error. These excrescences in the mouths of horses and oxen, particularly the latter, are represented as being attended with such troublesome symptoms from their enlargement, as to render their removal absolutely necessary, in order to the animal's feeding.

We shall give one more example, in which it will be found the author has been singularly unfortunate. Page 535. "The molten grease of our farriers is in itself one of the strongest proofs of the pitiable state in which veterinary medicine has been plunged *till this period*." Had Mr. B. here confined himself to the ignorant farriers merely, without imprudently risking an attack upon our most experienced and respectable veterinary writers, he had occupied a fair field, at least had escaped censure. Both Bracken and Gibson, if we remember aright, expressly call that humour which, oozing  
from



from the body of the horse, is denominated grease, by the name of lymph; at the same time being of opinion, from examination probably, that the real grease, or fat of the horse, was liquefiable by certain morbid actions, and really sometimes ejected in its proper state. But most unluckily, a certain English veterinarian of note, who precedes, by thirty or forty years, our author's *period of light*, appears by his book to have been enlightened in the same degree; that is, to have held precisely the same opinion on the subject with Mr. B. himself. Mr. B. has adduced, as diagnostic in this case, a symptom which we believe never characterizes molten grease. His prescriptions are probably drawn from analogy of human medicine, which might fail here. The calomel we object to; and oils, ever peculiarly disgusting to the horse, are not, we think, among the medicines indicated in this species of dysentery.

On the scouring of calves, where analogy might really have assisted him, the author is woefully mistaken indeed.

Yellows most unaccountably are said to be an unfrequent, and diabetes a frequent disease amongst horses; the very reverse of which is a known fact to the most common observers.

It is asserted, (p. 548,) that "the older writers on farriery did not understand the locked jaw at all;" yet Mr. B. seems to have drawn the little he has given us on this disease from Gibson, and others who have followed his practice.

On the generation of worms in the body of the horse, although Mr. B. has given up that exquisitely ludicrous origin, gravely offered to the world by Reaumur in the middle of the last century, on the credit of two Italian doctors, he has yet adopted a new hypothesis equally sage, and half as ridiculous. He is indeed excessively attached to hypothesis and to authority, particularly the latest. The humoral pathology, if we have not greatly misunderstood him, he both rejects and adopts in various parts of his works. He has halted still more openly and egregiously on the disputed subject of the nature of tendons and ligaments, for the absolute *inelasticity* of which he declares positively, in one or two places, yet allows their *elasticity* without reserve, in double the number of instances.

On quitting this subject, we most seriously admonish Mr. B. to reconsider the important affair of tendinous and ligamentary lameness in horses, which we are but too well assured,



sured, from long and various experience, has received but little benefit from certain fashionable theories.

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ART. VII. *Hygëia, a Series of Essays on Health; on a Plan entirely popular.* By THOMAS BEDDOES, M. D. N<sup>o</sup> VI. 96 pages. May 1802. PHILLIPS, London. Price 2s.

THIS Essay treats on scrofula, a disease which makes great havoc in this country, both among the rich and poor; indeed an excellent writer properly observes, that there is scarce any species of chronic disease which has not, one time or other, been observed to derive its origin from a scrofulous cause. The author begins the Essay with the following observations on acute and chronic diseases:

“ There are various disorders which complete their course in a few days, or in a few weeks: of these some are accompanied by instantaneous disability, by violent commotions in the system, or by some other striking change. Hence they have been denominated *acute* by medical writers. It is but seldom indeed, when these disorders have once shewn themselves in their proper form, that there is any occasion to caution the patient, or those about him, against procrastination in seeking relief. When they rage in a number of families at the same time, an universal consternation pervades a city or a country. The municipal magistracy, if not the government itself, shall sometimes think it necessary to have recourse to public measures for preventing the progress of the danger. And if we advert to the conduct of the very individuals whose supreme delight, at other times, consists in hurling defiance at the medical art, we shall observe that their tone is of all others the most changed, when they find themselves in the gripe of an *acute* malady. There are none who more piteously invoke the aid of physicians, or more timorously obey their injunctions.

“ Disorders which follow an opposite progress are distinguished by the title of *chronic*. They are, doubtless, often equally formidable with those of the former class, whether we consider their issue, or certain periods of their progress. But when unattended at their commencement with severe pain or alarming reduction of the animal powers, (which is the case with some, most eminently deserving to be styled *chronic*.) they excite no active interest in society at large. The persons affected,



affected, and those about them, remain insensible to their situation. Hence they are often suffered to run on to a dangerous or an irremediable length. And full security, or at most slight suspicion, is at once succeeded by despair. Though sometimes the security and the despair of the nearest relations of chronic invalids are separated by an interval of incredulity, than which nothing is apt more strongly to excite the indignation or the pity of the medical practitioner, according to the habitual or momentary state of his temper.

“ From the bills of mortality and the records of medicine, it is manifest that complaints of slow progress occasion as much destruction as those of an opposite nature. And if this be true, it will follow that they must, upon the whole, occasion much more distress. Hence it becomes the duty of writers on preventive medicine, to treat of the more formidable chronic disorders with particular care. There is nothing capable of effectually banishing false security, but a knowledge of the connexion between first slight appearances, and the secret operations of fatal causes. A conviction of the understanding, produced by a knowledge of the whole course of slow disorders, will supply the want of that, which in more urgent cases presses upon sense and feeling with irresistible force, and urges all parties to grasp with eagerness at every kind of assistance.

“ The term *scrofula*,” the author observes, “ is derived from the Latin word *scrofa*, which signifies a sow. The appearances, whatever they were, that gave rise to this denomination, occasioned the Greeks to follow the same analogy in their denomination: *χαίρας* being used both for the animal and the complaint. Various explanations, as is usual in such cases, are brought forward. According to some, the name was adopted because swine are liable to certain tumours, resembling those in *scrofula*, though the resemblance extends not farther than form, it having been discovered a few years ago that the *measles* in the hog race are produced by a species of *tænia*.—According to another derivation, the human neck is said to acquire from *scrofulous* tumours a degree of that grossness which that of the hog has from nature. Again, the great numbers, in which these tumours are often seen, is childishly supposed to bring to mind the number of young produced by a sow at one litter.

“ All these etymologies are founded upon the existence of external, and therefore tangible swellings; and to this we generally



generally find that the notion of the disorder is limited among the unprofessional. But this is much too narrow an idea. It is true, and it is essential to understand, that the enlargement of a particular class of glands, called *lymphatic glands*, is one of the earliest and most frequent phenomena exhibited by the complaint. These glands are those which most nearly resemble the acorn, when out of its cup or calyx, from which glands universally derive their appellation. The lymphatic glands are largely distributed through the interior and over the surface of the body. But as long as they remain in a healthy state, the most superficial do not present any thing elevated, knotty, or rough to the sight or the touch. But as soon as they become affected by scrofula, they immediately enlarge, and become very sensible on pressure. At first, they are rather soft, and in some degree elastic. In process of time they grow harder, and swell in knots or clusters, till the formation of *matter* within them restores their softness. Their bulk varies from the size of a pea to that of a kidney-bean and hazel-nut. They enlarge to the magnitude of a pigeon's egg, rarely to that of a pullet's. For though glandular lymphatic swellings often attain the size of a goose's egg, particularly under the arm-pit or in the groin, this happens from the enlargement of a whole cluster, and seldom of a single gland. And as to those large swellings which precede the disfiguring scars in the front of the neck under the chin, they take place in glands of a different description, when the habit is more seriously infected by scrofula.

“ One of the slightest of scrofulous affections, viz. when the swoln glands take the name of *growing kernels*, will give the best idea of the incipient stage of this complaint. Whoever examines this very common appearance, will find the single tumours moveable, soft, indolent, or without pain, and producing no discoloration of the skin. In this state they will remain for a long time, even for a number of years. Afterwards they either disappear from accidental increase of robustness, or enlarge, coalesce with the contiguous skin or *common integuments*, become immoveable, occasion the skin to change from a pale to dark red-hue, and give pain; all which circumstances denote progressive inflammation.

“ Even where they do not give pain on being handled, but are thick set, and somewhat enlarged about the neck, they produce a disagreeable sense of tension, when the head is turned round.



“ But it is to be observed that all tumours and indurations of the lymphatic glands are by no means referable to the head of scrofula. I have seen the lymphatic glands of the groin enlarged from a seton in the side, and from an abscess in the buttock. The same thing is well known to happen from the venereal poison. A cancerous tumour will be attended with the same effect. And a temporary enlargement of the lymphatic glands near the inflamed parts, will often accompany catarrh, and, not very unfrequently, a bad tooth. In these, and other instances, the occasion is so evident, and the origin of the affection of the lymphatic glands so sensible, that there can be little danger of mistake.”

A very common cause of these tumours of the glands of the neck, which are called *growing kernels*, and which we are rather surprised that our author has not noticed, is an ulceration behind the ear, or small ulcerations in the hairy scalp, both of which frequently occur in children. The matter being absorbed from these ulcers by the lymphatics, irritates the glands, and causes them to swell, though there is not the smallest disposition to scrofula, and these tumours subside on healing the ulcerations.

It is certainly particularly important, that the public should be well acquainted with the signs which indicate the habit most susceptible of this disease, in order that a preventive regimen may be followed from the beginning, and that recourse may be had to proper remedies, where regimen alone proves insufficient, and the disease seems gaining ground.

“ The quality of the skin,” he observes, “ and particularly that of the complexion, is one of the leading indications. The skin is fine and sleek; the complexion bright and ruddy. It is often such as, from first appearances, a mother would most desire for a daughter; and an unwary spectator consider as a mark of the most perfect health. This is so frequently the case, that some of those authors who have laboured so much in vain to give *definitions* of diseases, similar to those which occur in books of botanical nomenclature, have made a *fine complexion*, part of the character of scrofula. This part of the character is not merely objectionable, because the disease does not take place in all who have the assigned complexion. For causes to be mentioned hereafter will much more certainly occasion it, where this kind of complexion exists; and if a parent with such a complexion escapes, the progeny is often observed to become scrofulous. The principal



principal objection against this part of the definition is, that subjects as far as can be ascertained originally pale and sallow, are very often affected by scrofula in some of its worst forms.

“ When the temperament verges in the smallest degree towards the formation of the actual disease, the face appears fuller, or somewhat bloated. This appearance is more observable in some parts of the face than in others. It shews itself in the cheeks, and between the cheeks and ears. Both eyelids are puffed, particularly the lower. The nose looks thicker than usual. But more remarkable and more constant than any of these indications, is the enlargement of the upper lip, which often reaches to the partition between the nostrils, and to the *wings* of the nose. The natural depression in the middle of the upper lip becomes now much more conspicuous. Many authors look upon this enlargement of the upper lip as the most certain single mark of a scrofulous tendency. It is true that it is not always present, particularly in grown persons, where the disease is characterized by a concurrence of other undoubted symptoms. It is true also that many individuals and families, entirely free from all taint of this nature, have a tumid and prominent upper lip. But these cases may be generally distinguished by the constancy and original existence of the peculiarity. In the scrofulous, it will be remembered not to have existed, and it will generally fluctuate in size from time to time.

“ This enlargement of the upper lip, of which I am speaking, is vulgarly considered too as a sign of worms; but nothing is more likely than for worms and the complaint in question to co-exist. Parents are always falling into mischievous errors upon the subject of worms: worms very often infest children weakened by different maladies: when they are detected, they are considered as the prime or the sole object of regard. Domestic or advertised medicines, often of the most hazardous quality, are administered; these impair the constitution; or if they expel the worms without injury, the administrator of the remedy sits down content, and the main complaint goes on daily increasing, and infallibly avenges the neglect at some future period.

“ But not only does the upper lip become enlarged; the nostrils sometimes itch, grow excoriated and ulcerate, or are covered with a thick coating of crusts or scabs. This arises from a too copious discharge of mucus, the membrane by



which it is secreted, being very apt to be weak, or *relaxed*, as it is termed, in constitutions of this nature.

“ Of the complexion, it still remains to be observed, that even in the class of scrofulous subjects, who have cheeks ever so florid, the enlarged upper lip, the nose, and the circumjacent skin, are of a dead, pale, and unwholesome hue; by which contrast those who are accustomed to medical physiognomy will often recognise the complaint at first glance, and it ought to give others suspicion, if they will but avail themselves of their senses, and beware of a cheek like rouge, with a muzzle like white lead.

“ Before any positive symptoms of disease exist, and especially when the complexion is bright, the eyes are large, lucid, and such as to be esteemed highly beautiful. At this period too, the pupil is unusually dilated. In infants of the soundest habit, the pupil is larger than in adults, but on comparing such as from other circumstances appear to have a disposition to scrofula, the appearance will be found much more distinct, and to give the eye a darkness in the centre, which by the uninformed is esteemed as contributing to beauty. But from a variety of considerations, there is no doubt but it betokens constitutional debility, wherever it is habitual. Indeed, when only occasional, it accompanies those states, in which the system is most remarkably deprived of its vigour. It is seen in fainting, in low fever, and in the weaknesses brought on by the most hurtful excesses of youth. No wonder that the fibres of the iris should lose their tone, in common with the rest of the living fibres.

“ A light, grey or blue eye, has been enumerated among the marks of scrofula. It certainly often occurs, as well as light hair, in this temperament. Those however who have wide opportunities of observation, will find that the other tokens frequently concur with black hair and black eyes.

“ The general appearance of the skin—(and not merely that of the face)—as also of those veins which run along the surface of the body, is particularly worthy of regard, insomuch that this one indication, where it shews itself in young people, with general feebleness or indisposition to exercise, ought to put their friends upon their guard. The skin is conspicuous for the superior smoothness and fineness of its texture. It exhibits appearances that give the idea of transparency. These are owing to the full, fine blue of the veins. In patients far advanced in scrofulous disorders, those vessels have actually  
looked



looked to me as if filled with ink. And besides their colour, they are unusually turgid."

The older medical writers have laid great stress upon the shortness of the neck, as well as on the shortness and narrowness of the forehead, the flatness of the temples, and the depth of the jaw-bones; but the very contrary to some of these circumstances, according to Dr. B. for the most part obtains, which is agreeable to our own observation, particularly with regard to the neck. "The depth of the jaw," he observes, "is also produced by the actual existence of the disease, as manifested in the enlargement of the subjacent glands. The same is the case with regard to the neck, where the lymphatic and the other glands come to be swelled. Now as the lower parts of the face are dilated in size, the whole proportion of the features must evidently alter, and the forehead of course will look narrower and lower.

"It is undoubted however that in the scrofulous temperament, the whole head, particularly its hinder part, does attain a larger size. This happens particularly to those who have been rickety in infancy. For between the one disease and the other, there exists probably no difference, except in the time of life, and the parts attacked. We well know that one of the most important early processes in the constitution, is to form the compound (perfectly understood by modern chemists, as being formed of lime and acids) from which the bones derive their hardness. In many scrofulous constitutions this process is carried on too sluggishly, and the bones swell and become crooked in consequence. It is common to find those who have been rickety at one period, afflicted afterwards with the *evil*. And the children of mothers who have been rickety, will very frequently turn out scrofulous, without any disposition to that disease on the part of the father, and without the operation of any particularly unfavourable cause on the offspring. And in some families, part of the children shall be rickety and part scrofulous, so that not one among a great number of brothers and sisters, shall escape the one complaint or the other.

"The intellectual superiority of children of the scrofulous temperament has long been noticed, and it is certainly found to exist in a large proportion of cases. That sensibility or openness to impresion, which is one of the principal constituents of genius, has often been observed to accompany different diseases of debility. The complete distinction of circumstances,



cumstances, and ascertainment of causes, is one of the remotest benefits to be expected from the knowledge of the human mind, when that shall attain the point of perfection, for which the labours of Hobbes, Hartley, Locke, and Abraham Tucker have prepared the way.

“ In some cases of scrofula, however, when the disease has made considerable progress, the effect is entirely opposite. For there is a form of scrofula, in which the intellectual and other functions are equally impaired. Such cases almost universally belong to the class marked by a symptom easy to be distinguished, and of which the very first appearance should be the signal for seeking instruction how to arrest the progress of the whole complaint, and for persevering not only till so much of it as has actually taken place, shall be removed, but till the constitution has lost its scrofulous tendency. The symptom to which I allude is an enlargement and a hardness of the belly, especially towards evening. In the infants and young children of the poor, and in those who are ill fed and generally ill managed, this enlargement and hardness of the belly passes by gradations more or less quick into perfect atrophy. The character of the countenance here often differs totally from that which is usually described as denoting the scrofulous temperament. The face is indeed bloated, and that in a still greater degree, but it is of a uniform sallow. The eyes are dead, and disposed to weep. The little invalids are heavy, peevish, gloomy, and without relish for the usual sports of their age. They have frequently that superiority of the understanding which belongs to the other variety of the disease. But in place of being lively, they are considerate beyond their years. So that, in pursuance of a language long adopted in medicine, the one may be called *sanguineous*, the other *phlegmatic* scrofula. When the symptoms are suffered to increase, and when the disease bears upon the mental faculties, not only the face, but the body and limbs, are apt to be universally bloated. The hands and feet are habitually cold, and assume a purple hue. The bowels are so sluggish, that opening medicines are almost always necessary, and these, to produce their effect, must be of the sharpest kind. Every thing, in short, conspires to indicate torpor of body and mind. If there be any enlarged lymphatic or other glands about the neck and throat, (and this symptom is frequently absent,) they partake of the predominating quality of the whole system. They are almost sure to be without pain. They



They enlarge slowly, or not at all, after once becoming perceptible; and, of course, it is exceedingly unusual for them to gather and break. That rickety tendency, which is denoted by a head of unusual size, and by large joints, is often seen in this species or variety of scrofula.

“Opulent parents will never suffer such a complaint as this, to arise to a certain height unchecked. But it is here that they deceive themselves; and, after measures of small avail, sit down content, while the disorder only changes its seat and form. The enlargement of the belly, and perhaps also of the upper lip, are considered as implying the presence of worms. Recourse is accordingly had to some standing family composition against these animals, or to the pill and lozenge most recently announced in the newspapers, under the sanction of reverend and titled names.—Worms are expelled. The pill or lozenge, if it contain mercury, as it frequently will be found to do, may diminish for a time the scrofulous affection of the glands lodged in the belly. And the consequence of this may be, to favour the eruption of the disorder elsewhere. At least, it is commonly enough to be remarked that children, early affected with enlargement of the belly, and with the usual concomitant symptoms, are seized in the course of two or three years in more superficial parts, if by accident or design the first complaint should be lessened or removed, but no sufficient means adopted for clearing the constitution entirely.”

The peculiar *waste*, or atrophy, occasioned by this disease, when it affects the mesenteric glands, is more frequent among the poor than the rich, though it is not by any means confined to the abodes of poverty. The following good description of it is given by our author, which, in addition to what he has already said, will enable those who are willing to exert themselves in behalf of their helpless neighbours and dependants to recognise it with tolerable certainty.

“The belly of scrofulous young persons is almost always inclined to protuberance. But when that affection of the glands lodged within the belly, or of the mesenteric glands, by which the protuberance is caused, has proceeded to the length of atrophy, this appearance becomes peculiarly striking. And not only a fulness, but a hardness, will be felt about the navel. Sometimes, and at a certain period, hard inequalities will be sensible to the touch. The little sufferers (for it is always found to affect young children principally) will hardly  
be



be so stupid as not to have noticed those sensations, which in most cases are present, and which, where they are, will materially assist the judgment. One of these sensations is a weight about or below the navel. Another is frequent griping pain. There will exist an interior disorder, corresponding to the exterior. Sometimes it will be aversion to food ; at others, an insatiable appetite, or the desire of gross, farinaceous aliment, or of substances not fit to be used as articles of diet. The bowels will seldom be regular, often too open, now and then the contrary. The evacuations will have an unhealthy look, from being charged with slime, or from being too light of colour, because the liver does not secrete bile of a proper tinging quality. The advance of the complaint (and occasionally its more early stage) is accompanied by a very offensive purging.

“ The emaciation of the limbs will form a most disfiguring contrast with the enlargement of the belly. The skin will be found to hang loose, and sometimes, if doubled, to go almost round the member to which it belongs. It will also be of a dingy or dark colour. The complexion, of course, will be of a sallow or deadly pale, except when the hectic flush prints its deceitful and ill-omened animation on the cheek.

“ The fever will soon declare itself by other signals ; a general indisposition and lassitude will come on, especially in the evening ; shiverings will be felt, and to these an universal dry heat will succeed, with a degree of general or partial moisture in the course of the night.”

After describing at some length the exciting causes of scrofula, Dr. B. presents his readers with the following list, which, he observes, will equally suffice for those who may resolve to take the most effectual steps for obviating this evil, and for those who, after the fullest deliberation, imagine themselves obliged to determine that their sons and daughters should still take their choice.

“ An acescent diet in infancy.

“ Abuse of purgatives.

“ Severe chills, or continued low temperature.

“ Of course, too light clothing.

“ Habitual, or frequently renewed uneasiness of mind.

“ Want of fresh air and exercise.

“ Too much indulgence in bed and in hot rooms.

“ Any other debilitating practices.

“ There



“ There are families,” he observes, “ in which, as there can be no doubt as to the imminence of the danger, there ought to be no hesitation as to the propriety of adopting a preventive plan, almost from the very moment of birth. Here, if the mother be both feeble and scrofulous, it should be forbidden her to nurse. To the milk of a perfectly healthy foster-nurse, it will often be proper to join broth and diluted gravy; and should the history of the family, and the state of the little subject, give ground for great alarm, a diet, in which milk forms but a very small proportion, will prove the most wholesome. Writers on infancy have not been insensible to the necessity of early recourse to preparations of animal food, where the constitution is feeble; but a superstitious regard to milk, derived from its real superiority in the healthy state, has hindered them from going far enough in those extreme cases which I have at present in view. To a weakly child it is of no small consequence that it should interest its nurse; to this, digestible food will contribute more than may be supposed at first view, and without observation. An infant, tortured with perpetual acidity, will be perpetually torturing the ears of the attendants with its outcries; hurtful methods of procuring an interval of peace will be pursued, or the nurse will desert her charge to breathe a few moments in quiet. I have known very young children become immediately placid on a change of food, and afford daily entertainment to all about them, by the expressions of their happy state of being.

“ The most sedulous attention should be bestowed upon clothing and temperature. It is the most common part of the history of scrofulous invalids, that, while they fluctuate between health and those terrible seizures, after which any moderate variation in the ordinary powers of nature can make little difference, threatening appearances shall arise in cold weather, and vanish in warm. Thus nothing is more familiar than to see glandular tumours about the neck come and go with the seasons. But it will not be sufficient in scrofulous habits to keep up a due warmth by mere covering. In children able to use their limbs, the circulation should be kept brisk by frequent and gentle exercise; and they should never be suffered to languish on a bench for whole hours. At an earlier age, friction should be assiduously employed, as recommended in the preceding Essay. On the approach of winter, and during an uncommonly rigorous season, it will be particularly expe-



dient to be on one's guard against those relapses, which are so common in this complaint."

In speaking of the exciting causes of scrofula, Dr. Beddoes observes, that nothing is more notorious than the tendency of the small-pox to induce scrofulous disorders, where there has existed the smallest predisposition. Probably also the small-pox has affected the glandular part of the system sufficiently to bring on the disease, independently of all predisposition. Nor is there any other consideration which induces experienced medical men to set a higher value upon the mode of inoculation lately introduced; since the fever attending the cow-pox appears by no means strong enough to make a dangerous impression on any set of organs. For the glands are far from being the only part injured by the inoculated small-pox, even when mild in its symptoms.

The author next proceeds to point out some mistakes in opinion and practice. In this part of the Essay are some just observations, which we shall present to our readers.

"It is frequently imagined, that scrofulous tumours arise from tough, ropy humours, causing an obstruction in the tumefied parts. The idea of viscosity of the humours must have arisen from some actual phenomenon, referred by the fancy to a place in which it did not exist. The slimy or mucous stools in mesenteric atrophy are as likely to have given rise to this mistake, as any other scrofulous symptom. In other forms of the disease, this slime must have been supposed to occupy the glands, and, by clogging the vessels, to cause them to swell, as a stream enlarges when a dam is thrown across it. But there is no one reason for believing that such viscid humour exists in scrofulous glands. Its being discharged in the manner above mentioned, is certainly no better a reason than the discharge of similar mucus, when a person sneezes, blows his nose, or has breathed a cold atmosphere for some time. The surface of the intestines is destined to secrete mucus or phlegm; and an excess of this humour at particular times, indicates nothing in regard to distant parts, to which this function does not belong. But if we reject the supposition of viscosity in the humours, because it is totally without evidence, we can go a step farther as to obstruction. For here the negative can be proved. In glandular enlargements, the vessels are so far from being impervious, or less permeable than in the healthy state, that their area enlarges, and new ones form to carry on the circulation in proportion to the growth of the gland beyond its



its natural size. The case is exactly the same as with the growth of the whole body. There is an addition of mass and bulk; and the arteries and veins are found to become of larger diameter.

“ The exhibition therefore of those infusions and expressed juices, (as that of cleavers or goose-grass, water-cress, scurvy-grass, sassafras tea,) which are intended to attenuate the humours, and purify the blood, or to clear the passages, rests upon a wrong principle. Nor are objections to butter, as an article promoting obstructions, and relaxing the stomach and bowels, better founded. Its nutritive quality, on the contrary, renders it very fit for the scrofulous, in any quantity in which it is easily digestible.

“ Hard selenitic and calcareous waters have been given out by respectable observers for a cause of scrofula. M. de Luc, for instance, (*Lettres*, I. 17,) remarks that where he has found incrusting or petrifying springs, there the people were scrofulous. In like manner, the water of melted snow has been held by many authors to be the cause of the bronchocele, or Derbyshire neck. But the property of waters of the first description, to deposit calcareous particles on the surface of the substances over which they flow, combined with the hypothesis of obstruction, has obtained from various medical writers a sanction for this opinion, which it does not deserve. The production of scrofula by cold and damp is supported by facts so pointed, that the greater number of cases in situations abounding with hard waters, may safely be referred to this head, though food of bad quality, and other evils attendant upon poverty, may claim their share also. Bordeu affirms, that in some valleys divided by a river, the part of the inhabitants exposed to the north are subject to glandular swellings, while those on the other side are exempt, though both use the same food, and live in the same manner. The glandular swellings however in these instances seem to be the Derbyshire neck, or bronchocele, a disease confined to one particular gland low down in the neck, and nearly allied to scrofula, though persons affected by bronchocele have often no other scrofulous mark.”

Concerning the treatment of scrofula, when it affects superficial parts, two opposite incorrect opinions seem, according to our author, to have been entertained; “ The one, that it is dangerous to disperse tumours or heal ulcers, lest the scrofulous acrimony should migrate to more important organs, and excite fatal complaints: the second, that nothing farther



need be done than remove these local complaints." These ideas are evidently false, and lead to inert or improper modes of practice.

"Another prevailing error of considerable importance, as it tends to the destruction of many constitutions, and to the encouragement of fraud, is the confounding of certain affections of the skin with scrofula. The newspapers are perpetually offering a cure for *scurvy in the blood*, and for the king's evil. Now the eruptions, vulgarly called *scorbutic*, have no affinity to *scrofula*; and it is either the similarity of these two words in sound, or the occasional injury to the skin by the scrofulous swelling and suppuration of superficial glands, that keeps up this miserable delusion. So easily do property and life become the prey of the vilest and most clumsy impostures, when man is left in ignorance concerning himself, so that his hopes and fears, relative to this dearest of all objects, are subject to no sort of control from reason!

"About half a century ago, Dr. Russel published his celebrated dissertation on the use of sea-water in glandular atrophy, and in other diseases of the glands. The testimonies of other respectable practitioners have since been added; and a large part of the public has learned to look towards the sea as a resource, to which they may fly in case of need without further inquiry.

"The effects of sea-water and of the sea-air seem to be confounded in many minds. And it is for the benefit of the latter, that, in the maturity and towards the decline of summer, the metropolis pours out parts of its crowds to the Kentish coast. That the moral and physical effects of a journey and of fresh scenery will do much towards the restoration of certain invalids is a fact daily experienced in the practice of physic. But in scrofulous debility, or under any serious scrofulous ailment, no expectation of this kind ought for a moment to be entertained from mere removal either to the sea-coast or into the interior of the country. It is to be lamented that the rich should adopt such false measures, and waste a portion of time, that perhaps cannot be retrieved. It is more to be lamented that those, who are not rich, should throw away, after the same hopeless chance, that money which they can ill spare, and of which a portion, expended upon proper means, would certainly accomplish the object they have at heart.

"Of *sea-water*, after the value set upon it by such a man  
as



as Mr. Hunter, I dare not speak in a tone of the same disparagement. Invalids who have used it however often come under my inspection without exhibiting proof of its virtue. And experience assures me that there is an infinitely better method of treatment than any in which sea-water is concerned."

Indeed, in a preceding part of this Essay, the Doctor hints that he is in the possession of some secret by which scrofula may easily be cured. At page 7 he observes, that "there are few diseases in which the triumph of art has been rendered more complete. In its worst form, scrofula is to be removed by means from which not the smallest collateral injury results. In general, its entire eradication from the habit is attended with little difficulty." But he is *profoundly silent* with respect to the remedies or regimen which is thus to charm away this dreadful disease so easily. Surely, if he have the public good at heart as much as he professes, and if he be really acquainted with such remedies, he ought not to withhold them. If he do, will he not be liable to the severe censures which he has passed on those who advertise that they can easily cure the most dreadful maladies of the human frame?

To this Essay is added an Appendix, which is entitled, "The Art of preserving Health," which we shall present to our readers.

"It has always appeared to me extremely feasible to give practical instruction, provided one could find persons really in earnest to become proficient, in this art. Five years ago, when employed in drawing up an address to be delivered before a promiscuous audience, assembled to receive some elementary information respecting the structure of the human body, I ventured to deliver such an opinion. Nor will it be easy to find a fitter opportunity for reviving and enforcing it than at the close of a series of considerations on scrofulous diseases. The terms I used were the following—'I do not see why popular clinical lectures should not be joined to popular anatomical lectures. They should doubtless differ widely both in plan and execution from clinical lectures for medical pupils. It must be their aim to make fully sensible the mischiefs arising from systematic irregularity; from injudicious management after exposure to the inclemencies of the weather, and from the other innumerable ordinary errors of individual conduct. They must explain the origin and conduct, much more minutely than the treatment of diseases. They may be conveniently undertaken wherever there exists an infirmary.'

"It may not be unnecessary, for the sake of some readers,



to observe that *clinical* lectures are instructions grounded upon the cases of patients, actually submitted to the inspection of the pupils. Their introduction is the greatest improvement made in the schools of physic. What will confer greater skill in the cure of disorders, must be equally efficacious as to their prevention. And in this, not the members of a particular profession only, but all mankind, have an active interest.

“ The avidity with which people read and converse about the means continually proposed for influencing the fate of the rising generation, might lead one to believe that they would be equally eager to qualify themselves for promoting its happiness in the most effectual manner. And after the necessary allowance for the difference between talking and doing, it might assuredly be expected that the prospect of advantage to their children would induce numbers of parents to embrace a plan, demonstrably conducive to this end, and wholly free from danger, disgust, or inconvenience.

“ To a medical practitioner, who has constant intercourse and considerable influence among the invalid poor, it must be easy to form such a plan. He would only have to select such patients as would without reluctance, and could without impropriety, be presented to a number of spectators, before whom he should question them as to the origin and nature of their complaint. To do away every shadow of indelicacy of conduct towards the indigent sufferers themselves, he should, before their appearance, prepare his audience for observing the most significant peculiarities in the complexion, features, and person. But these points of management will easily occur to every reader's imagination. After the invalids had retired, the connexion of cause and effect in the case should be pointed out. Explanations from anatomy, chemistry, and other sciences, should be introduced, and the effect of the medicinal and dietetical treatment be shewn by producing the party, subjected to it, from time to time. It should be the principal object to illustrate the obscure origin, and to detect the insidious course, of those chronic diseases of the country, which infest all conditions alike. It would be impossible that there should not offer an immense multitude of facts extremely curious, if considered only as belonging to the natural history of the human animal, and acquiring a tenfold interest from a perception of their applicability.

“ The author has it most amply in his power, as will appear from the annexed list, to execute the scheme, of which he can here exhibit only a very imperfect sketch. The simplicity  
and



and the success in treating the worst and most common chronic diseases at the Pneumatic Institution is such, and the fact has become so well known in Bristol and its environs, that poor invalids are resorting to it in rapidly increasing numbers. And among these, the choice would be very much unrestrained. All the forms of scrofula would be seen, and it would appear in what a large proportion of instances the disorder could be removed, even under the disadvantage of too sparing and meagre a diet. The power of medicine in arresting the progress of consumption in its early stage would be witnessed. And it would be shewn with what perfect certainty indigestion, hypochondriasis, hysteria, and a kindred and very harassing tribe of complaints, can be removed by means first brought into use at this establishment for medical research. Similar success would be witnessed in cutaneous eruptions. Many instructive particulars relative to the effects of groundless fear, of vulgar prejudices, and ill-adapted dress, have come before us, and the same will not fail to occur hereafter.

“ There is one lesson which I have been taught by my own experience and that of others. He who would render mankind great service, should qualify himself by as long a preparation of patience as the Pythagoreans were enjoined of silence; otherwise, what can the seed of his good intentions bring forth to him, but the bitter fruits of fretfulness and misanthropy? I shall therefore, without chagrin, see a project, which I think capable of producing boundless benefit to the human race, rise from the humblest beginnings. And if there be within reach of me only as many parents, disposed to learn from the book of Nature how to guard their progeny against ill health, as the angel required of righteous to save Sodom and Gomorrah, I shall not disdain to give them the best assistance in my power. I shall impose upon them no heavy burden of trouble or of expense; I shall only require them to wait upon me at the Pneumatic Institution at my own seasons, and to bestow upon the selected invalids such small gratuities as may compensate for their loss of time, and render them punctual in their extra attendance. A few mothers of growing families I should be glad to find accepting this invitation. I would pledge all I am worth, that those who can overcome their first nameless and unfounded apprehensions, shall not only not meet with any thing to give them the slightest feeling of repugnance, but that they shall be gratified in a high degree as well as instructed.

“ *Number*



*“Number and Kinds of Cases of Patients who have applied at the Medical Pneumatic Institution, from January 1 to April 18, 1802, registered by J. KING, Surgeon.”*

No. of Cases.		No. of Cases.	
Fevers, intermittent	13	Headach	9
- - - continued	7	Giddiness	7
Dysentery and diarrhœa	8	Palsy	9
Acute rheumatism	4	Epilepsy	6
Inflammatory sore throat	2	Catalepsy	1
Catarrh, chronic and acute	38	Bleeding at the nose	2
Hooping-cough	36	Urinary and calculous com-plaints	10
Shortness of breath of dif-ferent kinds	22	Dropsies	12
Blood-spitting	4	Piles	3
Pulmonary consumption	52	Fistula	2
Chronic rheumatism	39	Cancerous	3
Scrofulous affection of the eyes	11	Divers cutaneous eruptions	41
- - - - - ears	8	besides ditto from poison	1
- - - - - swellings	25	Itch	4
- - - - - abscess	7	Scald-head	3
- - affections of bones		Venereal	10
and joints	17	Irregular action of the heart	2
- - mesenteric atrophy	21	Diseases of the eyes--external	6
Scrofulous in all	89	ditto--internal	6
Rickets	3	Deafness	9
Indigestion	32	Worms	12
- - - - - bilious	17	Abscess and tumours	5
Pain in the stomach	2	Sprains and contusions	7
Hypochondria	8	Sore legs	12
Hysterical and other dis-eases peculiar to women	98	Gout	3
		Inoculated for the cow-pock	19
		Total	678

ART. VIII. *The Sceptic.* Octavo. 70. pages. London. 1802.

WE have taken up this work and laid it down two or three times, without being able to decide whether it was proper to notice it in a medical Review: we are of opinion, however, that satire may sometimes be of service; when properly directed,



rected, by rendering theorists or plagiarists more cautious how they present themselves before the public, and by putting that public on their guard, and inducing them to examine carefully what they might otherwise be disposed to take for granted.

The author of this pamphlet, which is printed at Retford, appears to possess considerable philosophical acumen, and no mean satirical talent; at the same time he presents us with some theories, which are, in our opinion, as absurd as those against which his wit is levelled: so true is it, that we can see a mote in the eye of another, and yet be insensible of a beam in our own. We shall present our readers with a few extracts.

In speaking of galvanism, and the numerous experiments made with frogs, he observes, “ Were I a frog, indeed, I should think myself justifiable in cursing the moment of her birth, and execrating the fools who, dead to all the feelings of humanity, heap aggravated tortures on the race—harmless as doves!—to see them—shake a leg!”

The following animadversions, on the antiphlogistic theory, and some lately revived notions concerning the nature of heat, will perhaps make the reader smile.

“ The next young Wonder, in point of magnitude, was *Antiphlogiston*! He shivered a little at first, when exposed to the cold; but, by being placed before the ash-hole of a reverberatory furnace, and fed with sur-oxygenated panada, he suddenly sprang up like a mushroom, expanded to a colossal size, and, like a fog, diffused himself over all Europe; and, like a fog too, he is mere vapour, which involves all objects in obscurity. At first he wandered about like a spectre without power or energy, till his little brother *Caloric*, another young Wonder, was born. He then associated himself with him; and, together, they have performed amazing feats of dexterity, in the hocus pocus way, to the astonishment of all the learned lovers of incomprehensibility in all the various parts of the world.

“ All their tricks are performed by confederacy, and *Caloric* very commonly lies perdue under the table, and produces wonderful metamorphoses; while *Antiphlogiston* is the ostensible actor, making faces, and uttering an unintelligible jargon of words, to take off the attention of the gaping multitude.

“ Thus *Antiphlogiston* produces a bottle containing a little acid, which he places in a little sand in a pot standing upon the table: he then begins a pompous harangue about oxyds, carbonates, oxygenated and sur-oxygenated muriates, &c. accompanied with shrugs of the shoulders, spluttering, and



grimace: in the mean time, Caloric, under the table, diffuses himself into the bottle among the acid, and becomes invisible; when Antiphlogiston immediately shews to the astonished gapers-on that the acid is actually converted into air. To the initiated he explains the trick, and shews them clearly that Caloric and Oxygen form air; and that his brother Caloric, though naturally so *hot* and *fiery*, that there is no coming near him, by this combination becomes so *cool* and peaceable, that a *man* might starve to death in his arms.

“ Caloric, however, being hasty, touchous, and passionate, sometimes acts rather eccentrically, and will not behave to his brother Antiphlogiston with due decorum; which he, however, excuses to the audience, by accusing poor Caloric of wildness and instability. Thus Caloric will sometimes assist a metal to copulate with Oxygen; when, his imagination being a little heated by the scene presented to his view, he suddenly seizes poor Oxygen by the nape of the neck, tears him from his embrace, and instantly renders him invisible, by metamorphosing him into gas! Thus destroying in one moment what he had done the moment before.

“ Sometimes Caloric will appear when nobody thought him near them; and even his brother Antiphlogiston stares with astonishment, and wonders how the d—l he came there, as lately happened in the presence of Count Rumford and of Mr. Davy.

“ In fact they, as well as Antiphlogiston himself, were so struck with his appearance, that they concluded he must be either the d—l or perpetual motion personified they hardly knew how, and they hardly knew which; except Mr. Davy, who at last swore that he was Motion, and nothing else.

“ Some people take him for the d—l, and treat him as such; for example, certain great physicians have lately entered into a compact with him; the conditions of which are, that Caloric shall be at their call and command, to enter into strange shapes and combinations, and to suffer himself to be *conjured* into a *bladder*. In this state he is to be sold to make their fortunes; when (as soon as the money is paid) he disengages himself from the purchaser, leaving nothing but his nastiness behind him.

“ The other part of the conditions, *è contra*, is, that these bladder conjurers, or newfangled Doctors, shall pimp for Caloric. Being naturally hot in constitution, his passion for the ladies is unquenchable; these Doctors, therefore, in re-  
turn



turn for fame and fortune, are bound to recommend and introduce him to the ladies in the state of gas. In this insidious manner gaining admittance into their lovely persons, he warms their snowy bosoms, blows up the latent spark of soft desire, explores each hidden source of human bliss, and, unsuspected, riots in their charms! and, if certain inuendos have foundation, more than one fair patient has become a mother in consequence.

“ Indeed, Antiphlogiston and his brother Caloric every day perform wonders! By a chemico-pathological process they convert wine into water, and mutton and turnips into dung: Caloric, in a trice, will convert ye a diamond into charcoal, and change good stout ale into dead small beer!

“ In short, Caloric himself is the oddest dog I have ever met with! He was born in France, was destined, in partnership with his brother Antiphlogiston, to make fools of one half of the world, while his brother Revolution cuts the throats of the other. He was frequently hinted at in the writings of the Evangelists and Apostles, and appointed to the great and honourable office of tormentor-general of the d—d to all eternity. Perhaps, my gentle reader, thou wilt tell me, that thou art not fool enough to be gulled by any of the wonderful absurdities I have told thee; if so, join with me, and acknowledge thyself

A SCEPTIC.”

We are next presented with some judicious remarks on M. Fourcroy’s memoir on the application of pneumatic chemistry to the art of healing, in which he controverts the idea, that the effects of mercury on the system arise from its imparting oxygen to the living fibre, with much ingenuity, as the reader will see from the following extract.

“ According to the principles which M. F. maintains, the nitrat of quicksilver is merely a combination of quicksilver with oxygen; and the difference in the effects upon the stomach he, therefore, attributes to the oxygen solely.

“ But if the few grains of oxygen which the mercury attracted from the azote of nitrous acid, when transferred to the animal fibre, produce such violent effects, why does not the oxygen of the nitrous acid itself produce such effects when taken into the stomach? A drachm of nitrous acid, diluted with a pint or two of water, may be taken into an healthy stomach without injury; but a few grains of the nitrat of quicksilver with that quantity of water produce effects the most alarming.



“ The animal fibre can abstract the oxygen from the quicksilver combined with it to form nitrat of mercury : quicksilver can take oxygen from the azot with which it forms nitrous acid ; consequently the animal fibre must readily attract the oxygen of nitrous acid from its azot, because it can take it even from quicksilver ; which quicksilver can displace the azot, and combine with the oxygen of the nitrous acid.

“ The simple play of oxygen, then, cannot explain these effects, and some principle must have been overlooked, which is essentially necessary to render the theory complete, and to afford satisfaction to the accurate reasoner.

“ If metals are simple substances, generally, to a considerable degree, inactive as medicines, in their entire state, and are rendered active by combination with oxygen ; if the activity they manifest when taken into the stomach in their oxygenated state, be produced by transferring their oxygen to the animal fibres ; the oxygen transferred being the same principle in all, why has it such different effects when separated from arsenic, antimony, or mercury, from those which it produces when acquired by the animal fibres from iron ?

“ If iron acts as a tonic by *imparting* oxygen to the animal fibres, how does the cortex produce its tonic effects, when M. F. teaches us that it *attracts* oxygen and combines with it ? If oxygen thickens the fluids, how happens it that opium or bark, liberally given, changes the thin ichor of ulcers into mild pure pus ? In short, so many difficulties press on every side, so many obstacles arise in every direction, and so many inconsistencies distract in every strict investigation of the antiphlogistic doctrine which M. F. so eagerly maintains, that although the enormous mass of philosophers, which the world now groans under, swallow it as gospel, I, poor I, am still

A SCEPTIC.”

He then presents us with a criticism upon Mr. Davy's theory, that fire is nothing but motion. The following is the humorous mode of argumentation employed by him on this subject.

“ Before I enter upon the arguments which Mr. D. hath brought forwards, to prove the non-entity of heat, or fire, let me, first of all, consider in what manner it can be conceived possible for motion to produce the phenomena of heat. I take a candle, and apply to the extremity of the wick a flame ; that flame puts the wick in motion : at first, if not well put  
into



into motion, it seems doubtful whether that degree of vibration can overcome the inertia, or not. In half a minute, however, the vibration becomes free; the motion by resistance is increased; and my candle now vibrates with as much splendour as a farthing candle can afford to exhibit. This motion then proceeds, and in two or three hours time it progressively shakes the candle into atoms, which are dispersed about the room.

“ From this statement, which, according to Mr. D—’s theory, is certainly correct, we learn, 1st, that cotton and tallow are excellent vibrating substances: 2dly, that motion is not diminished by time nor resistance in such greasy media: and 3dly, that motion increases its sphere of action without diminishing its power, in proportion to the resistance it meets with, or to the work which it finds is cut out for it to do.

“ If heat then be vibration, or motion, it is a very odd kind of motion, that is certain.—Let us try it again.

“ Heat a stone just below the degree of ignition, and then let us carefully examine it; does it stir? No; it is corpuscular motion we must look for: examine its component particles, then, with the most powerful magnifiers; is any motion perceived? None whatever. How then do we know that the particles of stone are in motion? By no means can we know it but by reasoning. Good! then this motion, called heat, is motion without change of place—is motion stock still—is motion without sensible existence but in reasoning; and in reasoning, motion is a term without an idea, when applied to hot stones.

“ Again, if I apply a warm iron to a common fir match, it has no considerable effect; but if I increase the heat of the iron to candescence, the end of the match being applied, it takes fire, and the match is gradually but wholly consumed.

“ If fire or heat, then, be motion, it evidently requires that motion to be in degree sufficient to overcome the attraction of the component particles of the match, by which they are consolidated: but the singularity is, that if a degree of motion be applied to the match, just sufficient to overcome the attraction of the particles to which the motion is *immediately* given, that motion is sufficient to overcome the whole mass of attractive power, by which the component particles of the fir are consolidated, even though the match were as large and strong as the main-mast of a first rate ship of war!

“ Fortunately



“ Fortunately for us, then, the motion called heat is very, very different from the motion called motion; otherwise, if a ball were projected with a degree of motion sufficient to overcome the resistance made by the aggregative powers of attraction of a deal board, half an inch thick, it would pass through a thousand deal boards in contact with as much ease and unconcern as through one, only give it time.

“ If then motion be motion, heat is not motion, because its laws of action are, *toto cælo*, different from those of motion; particularly from those fundamental laws, that action and re-action are mutual and equal; and that every moving body loses a quantum of its own motion equal to what it imparts to another.

“ Perhaps, in an unwary moment, it might be urged, that the repulsive motion called heat, when applied to the match, overcomes the attraction of its particles to each other, by which they become attractive to the oxygen of the oxygen gas in the atmosphere with which they combine; and—and what? the component principles of the match, by combining with oxygen, in consequence of this repulsive motion, can only liberate the light of the oxygen gas; which, being projectile motion, flies away: consequently, the acquisition of oxygen and projection of light, cannot increase the repulsive motion, or heat. According to Mr. Davy’s hypothesis, the match cannot contain any latent heat; because heat is motion; and, therefore, cannot be fixed by attraction, so as to become a part of any substance whatever: the only motion, then, which can be admitted as destroying the texture and dissipating the corpuscles of the match, is that first applied; which proceeds, unimpaired by resistance, till the whole of the match is dispersed in atoms; or combined with oxygen, and forming a few remaining ashes.

“ Sir Isaac Newton found by experiments, that heat passes through a vacuum, as perfectly as through the common atmosphere, and nearly in the same time; consequently, then, if heat be motion, a vacuum must be a *substance* capable of transmitting that motion; but, if a vacuum must be insubstantial, then heat is an entity, a subtle fluid, which, when accumulated in one part, will diffuse itself around to regain an equilibrium: and, consequently, a vacuum is no interruption.

“ In short, the idea that heat is merely a condition of bodies, depending upon the motion, or vibration of the corpuscles, or component particles of matter, appears to me so perfectly unsupported by reason, so repugnant to the general laws



laws of indubitable motion, and so palpably contradictory to the testimonies of the senses; that more substantial arguments must be brought, than any hitherto afforded, by either Count Rumford or Mr. Davy, before I can cease to be sceptical."

The work is concluded with a colloquial dissertation on the new set of empirics, the *Æolists*, or Quacks pneumatic, with criticisms on a certain popular medical work. We shall present our readers with an extract, and then take our leave of this eccentric writer.

"Being an obscure fellow, living in obscurity, in an obscure corner of the world, it gives me pleasure when, sometimes, an old acquaintance stumbles over my threshold; as I then get some little information of what is going forward in the world.

"Jack Cayenne, partner to an old apothecary in the neighbourhood, called upon me the other day; and knowing that I was a reader, amongst other things, in the course of a rapid conversation, asked me if I had seen the famous new publication called *Physical Extracts*, or some such thing? though his memory, he said, was not very correct in names and titles.—I answered, that I paid little attention to pharmacy.—Pharmacy! replied he quickly: why, you quite mistake the thing!—instead of being a collection of receipts for making the physical extracts, you are meaning, of bark, of gentian, &c. &c. the work in question is formed of extracts from medical writers!—Indeed!—Yes! So it is, Sir. I have it, and it is much at your service.—You are kind, Mr. C. but as it is not at hand, and you have perused it, give me your opinion; give me a sketch of it.—Willingly, says the volatile Cayenne; attend.

"This book, Sir, or rather, these four octavo volumes are anonymous, and constructed upon a plan quite novel. About a third part of each volume is taken up with a kind of syllabus, or table of contents; without any references; consequently, it answers no end but to swell the work and enhance the price: it is a bill of fare which is absurdly sent up with the victuals; as though a man could not tell what was for dinner, by looking upon the table, as well as by reading over a bill of fare half as long as the table upon which the victuals were dished.

"This work, Sir, consists of extracts from other writers; which the author has tagged together with ands, fors, buts, and alsos.—When I first looked into it, not being aware of trick, not recollecting the title, I fancied I was reading the author's own work; till being struck with a remarkable coincidence



cidence between the reasoning in the text and my own, I, at last, to my no small astonishment, found that I had been reading several pages, extracted from a tract published some time ago by myself!—My eyes instantly opened to a downright stare!—D-mme, says I, if I had not recollected the passage, I should have entertained the false idea, that this fellow had been the very author of what I had just now read!

“—No inverted comma;—no acknowledgment of the author;—no hint, whatsoever, that what you are reading is not entirely the author's own; excepting the general title; in consequence of which, nine hundred and ninety-nine out of a thousand readers, attribute to this compiler, all that is there laid before them.—Give me leave, Sir, to say that *I think* this is unfair—Physical extracts!—they *strike me* as being physical thefts!—Stolen from every book the compiler has laid his hands upon; cemented together by some soft wishey-washey stuff of his own; and, in this state, the unsuspecting multitude fancy every thing proceeds from the author; and the pilfering compiler receives the applause which is due, not to him, but to the numerous authors he has robbed, *in effect*; though he shelters himself under the pitiful salvo of a general title.

“So have I seen a spruce, little mantua-maker, display to her customers a counterpane, formed of all the various patterns and beauties, that the printing art, on such materials, has produced.—I have seen the good, unsuspecting matrons gaze with rapture! and look with envy and astonishment, at such a display of beauty, ingenuity, and worth!—till, at length, some keen-eyed dame, struck with a pattern, which she thought solely in her own possession, dispels the illusion, by shewing them that the beautiful assemblage before them, was composed of shreds, pieces, and patches, which had been stolen from every individual in the neighbourhood!—and that there was nothing the mantua-maker had done, but cut them into proper shapes and sizes, and stitch them together; and nothing, therefore, that she was so remarkable for, as her *impudence* in thus exposing them and herself.

“You astonish me, Mr. Cayenne, by thus assuring me that a man can, without any ‘by your leave’—or acknowledgment whatever, think he has a right to republish any book, or part of a book he pleases; and hand it to the world as new, and in such a way as to pass for his own production!—An extract ought, at all times, to be distinguished, or separated by some concerted marks; so as to be known not to belong to the author of the book in which it is quoted; but, when it is incorporated;



so that the author's own cannot be known, by general readers, from the quotation, it is no longer quotation in fact, but—*theft!* and when several, when many thefts of this kind are discovered in any work, depend upon it, Mr. Cayenne, that upon close examination, nothing in that work belongs to the compiler, which any author he has stolen from would not blush to own.

“And pray, Mr. Cayenne, is it known who was the author of this scissars and paste work?—Why, yes, Sir. When this plagiarist found that this work took with the people; and that all the merit due to all the authors, which he had collected information or entertainment from, was given to *him* as whole and sole author; he, then, like the jackdaw in peacock's feathers, strutted forth ‘*tumens inani superbia*’—Dr. Thistleton!—if I recollect right,—author of the Physical Extracts so greatly applauded!—

“And who, Mr. Cayenne, is this Dr. Thistleton?—do you know him?—Why, no, Sir; not personally.—Nor much about him, but what he tells himself; but from that source of information I learn, that he is a dashing empiric of the new school,—called the *Æolists*,—or the quacks-pneumatic.

“These *Æolists*, Sir, brew quantities of *air*, or *gases* as they call them, after the visionary Van Helmont, which they retail by the *bladder-full*; and like the quacks of the old school, the Broadbums, Godsbobs, Syllymans, and Syblice, they publish wonderful accounts of wonderful cures, effected by breathing so many bladders full of air a day.”

ART. IX. *The new Chemical Nomenclature, selected from the most distinguished modern Writers on Chemistry, designed for the Use of Students in Pharmacy, Druggists, Apothecaries, and others. It consists of two Parts: the first of which exhibits the scientific Arrangements in English and Latin: and the second contains the same in English, disposed in alphabetical Order. In both Parts the old Names will be found on the right-hand Column, opposite the new.* By C. PYE, Chemist. Octavo. 35 pages. London. 1802.

THOUGH this work might have been better executed, we have no doubt that it will be very useful, particularly to those who have studied chemistry in the old school, and who are afraid to enter upon the new, because of the new names. The



difficulty is, however, soon removed; and we will venture to promise any one who has studied the old system, that if he will only give a week to that of Lavoisier, he will find that the most formidable difficulties will be overcome.

### FOREIGN BOOKS.

ART. X. *Médecine légale, et Police médicale.* De P. A. O. MAHON, Professeur de Médecine légale et de l'Histoire de la Médecine à l'Ecole de Médecine de Paris; Médecin en chef de l'Hospice des Vénériens de Paris; Membre de la Société de l'Ecole de Médecine, de la Société Médicale d'Emulation; et auparavant, Docteur de la Faculté de Paris, Membre de la Société Royale de Médecine, &c. &c. Avec quelques Notes du Cit. FAUTREL, Ancien Officier de Santé des Armées. i. e. *Legal Medicine and medical Police.* By P. A. O. MAHON, &c. &c. Three volumes, octavo. Paris. 1801.

THIS extensive and elaborate work was the object to which the labours of the author were for many years directed: he died before he had revised and corrected it; this business was therefore intrusted to the editor, who has given some introductory observations on the subject of legal medicine, and has added occasional notes.

The first volume commences with general observations on the nature of the study, its importance and difficulty, and the manner in which it should be prosecuted.

The following are the particular subjects of investigation, viz.

Impotence—Sexual Intercourse—Castration—Hermaphrodites—Virginity—Rape—Sodomy—Pregnancy—Late Births—Bastards—Abortions—Monsters—False Conceptions—Doubtful State of Mind and Body—Madness—Pretended Complaints.

The second volume consists of dissertations on Mutilation, and Wounds of various Parts—On apparent and violent Death—On Poisons—and on Infanticide.

The third volume treats of Hanging and Drowning—Of the Manner of making Reports—and of Consultations; which concludes the subject of *Legal Medicine*.

Medical Police comprises Observations on Celibacy—On sexual Intercourse—Contagion—Marriage—Pregnancy—Childbirth



Childbirth — The Cæsarian Operation — Punishments — and Inoculation.

In the treatment of all these subjects, it is the wish of the author to give such a view of them, as may direct the decisions of justice on any questions in which they are concerned. In very many of the cases that come before criminal tribunals, it is necessary that the depositions of experienced men should be obtained, in order to lay before the judges a proper view of the subject, to assist them in forming their opinion of the existence, nature, and magnitude of a crime.

The present work will be useful to medical men in the subjects on which it may be ever necessary to give a public opinion: it has been written with great care, and forms a valuable system of medical *jurisprudence*.

ART. XI. *Elemens de Pyratologie methodique: i. e. Elements of methodical Pyretology.* By CH. G. SELLE.

Translated from the original Latin Edition by J. B. MONT-  
BLENE. Octavo. Lyons.

THE knowledge of fevers has been explained by the late M. Selle, first physician to the King of Prussia, in the work we are now noticing, in a new manner. His system of classification forms an epocha in the history of physic, as it treats, in a philosophical manner, the most correct ideas which have presented themselves on these disorders hitherto so little known.

The introduction presents some prolegomena, which serve as preliminaries to his theory. According to him, there exists a difference among diseases, the consideration of which has been hitherto neglected, and which results from an established order in nature; from whence he deduces not only the possibility, but the necessity, of classing disorders. He afterwards distinguishes the causes of disorders into material and formal. The *material cause* is some vice which is engendered in the fluids and solids; the *formal cause* arises from the disposition of the body, which enables the material cause to produce such or such effects. The cure of these disorders consists in removing the causes of the symptoms, and is divided into *essential cure*, which removes the *material cause*, and into *specific cure*, which acts on the formal cause. The author has drawn all his authorities, proper to establish the nature of the disorders, their particular symptoms, the signs or the accidents



which accompany, the means of cure, &c. from the best sources. The authorities are cited for each article, and form this work into a repertory which will save the practitioner much trouble, and serve to instruct those who study medicine.

[*Journal de la Lit. de France*, N<sup>o</sup> VIII. Année 9.

ART. XII. *Anatomie generale appliquée à la Physiologie et à la Médecine: i.e. General Anatomy applied to Physiology and Medicine.* By J. BICHAT. 4 vols. large octavo. 1632 pages.

A MEDICAL anatomy may be said hitherto not to have existed. In order to form one, it was necessary to pursue the labours of Hewson, Mascagni, and others, to make new experiments, become master of the new chemistry, to arrange the materials, and class the phenomena which had been collected by observation, but which were yet to analyse. This is the end the author has proposed to himself, and which he has completely effected.

There are in the general organization of animals a certain number of series, which are every where the same, in whatever part they are found, and each of which bears the name or title of *system*. These systems are divided into two grand classes, of which the first comprehends the cellular, arterial, venous, exhaling, and absorbent systems. The second embraces the osseous, the medullary, cartilaginous, fibrous, fibro-cartilaginous, muscular, mucous, serous, synovial, glandulous, dermous, epidermous, and pilary systems.

Citizen Bichat examines these systems with respect to their exterior forms, their organization, properties, and peculiarities, whether in a state of health or of disease. Each of these systems, examined under these four heads, would require a much more extensive analysis than the limits of a journal will permit.

The author has chosen a method which embraces every thing that has connexion either with observation or experiment: the concatenation of facts is so close, and the consequences drawn from thence are so well supported by practice, that we must regret we are not able to enter into all the details of a work which will powerfully contribute to the progress of medicine, and which will give to his instruction the most rapid success.

[*Journal Gen. de la Lit. de France*, N<sup>o</sup> IX. Année 9.

ART.



ART. XIII. *Nouvelles Recherches sur la Retention d'Urine, par Retricissement organique de l'Uretre: i. e. New Inquiries respecting a Retention of Urine, occasioned by an organic Restriction of the Urethra.* By J. NAUCH. 76 pages. Octavo. Paris.

THE author considers this disease in its progress and in its last period, examines the variations which distinguish it from other disorders that resemble it, and traces it back to those distant, determining, and material causes which engender it. He afterwards points out its prognostic, treatment, consecutive and concomitant attendants, and the means of cure. The attention with which the author has treated every object, and the various experiments whose results he gives us, do honour to his zeal and the extent of his knowledge, and render the dissertation valuable to all those who practise the art of healing.

[*Journal Gen. de la Lit. de France, N<sup>o</sup> IX. Année 9.*

ART. XIV. *Essai sur la Megalanthropogenesie, &c.: i. e. Essay on Megalanthropogenesie; or, the Art of getting Children of Talent, who will become great Men; with some physiognomic Marks proper to discover them as described by Lavater, and of the best Mode of Generation.* By Citizen ROBERT the younger. 240 pages. Duodecimo.

TO know the title of this book, it may be necessary to observe, that it is composed of three Greek words; *megalos*, great, *anthropos*, man, and *genesis*, generation. The author supports himself on the authority of *Buffon*, *Camper*, *Lacpepe*, *Lamark*, *Aristotle*, and *Plato*, to prove that children inherit the passions of their parents, and even the different varieties which are met with in their osseous formation. To perpetuate a race of great men uncontaminated, it is necessary that a man of talents should be married to a woman of talents, for, according to our author, the degeneracy of the race always arises from the woman. He cites some examples, such as that of *Louis Racine*, who was so much inferior to *John Racine*, only because *Catharine Ramanet*, wife of the latter, had never been acquainted, either by representation or reading, with the pieces which have immortalized her husband. "A woman," says he, "who has not cultivated her mind, and the talents of whose brain have not been exercised, either in the sublime conceptions



conceptions of genius, or by some delicate strokes of wit, can, even with the aid of a great man, produce only children of middling talents."

It does not come within our plan to discuss the foundation of this opinion, and the degree of probability which may give it that great authority which the author claims in its favour. He proposes the foundation of two great *Athenaeums* consecrated to the education of great men and women, one of which shall be destined to the education of male, and the other of female children, and that the first shall be fixed at the Military School, and the second at Versailles. "Familiarize childhood," says he, "with glory and danger, and heroes will arise in crowds. Direct the attention of children to the paintings of Rubens and Raphael, and you will have many Michael Angelos. Let children become acquainted with the telescopes of Kepler and Cassini, and you will have many Lalandes and Herschels."

The two first chapters are destined to the *different systems of generation*, and to that of *the signs necessary to discover great men*, as described by Lavater.

[*Journal Gen. de la Lit. de France*, N<sup>o</sup> X. Année 9.

ART. XV. *Apologie des Brownischen Systems der Heilkunde, &c.*: i. e. *An Apology for the medical System of Brown, founded on Reason and Experience.* By H. WERNER. Vol. II. Octavo. Vienna.

MANY physicians have associated together to communicate to each other such practical observations as should appear to favour the system of Brown. The volume we now announce contains the following memoirs: 1. A Letter from M. Lafontaine to the Editor, concerning the System of Brown. M. Lafontaine, a highly-esteemed physician, renders an account, in this letter, how much he has been induced, from experience, to adopt the system of Brown, of which he was formerly the opponent; and he assures us, that he has been much more successful in the treatment of diseases since he has embraced that system than he was before he knew its principles, and had the boldness to pursue them. 2. Of the Abuse of Purgatives, and of the Weakness which results from it. 3. Medical Observations of the Editor.

In the Introduction M. Werner presents a comparative sketch



sketch between his practice in the last three years, in which he has pursued the principles of Brown, and that of the ten preceding years, in which he had pursued the antiphlogistic and gastric systems. This comparison is much in favour of the first system. These observations are eight in number, and are followed by eleven others made by different physicians, and communicated to the editor. We remarked three observations on intermitting fevers, the history of a puerperal typhus, and that of an apoplexy, by Mr. *Iberer*, and some observations of M. Neuhauser, on the dysentery which prevailed at Cracow in 1799.

The fourth division speaks of the influence of the new theory in the treatment of diseases in general, and of rheumatism in particular, by M. *Pohl*. This memoir does not present any thing interesting; the author recommends the use of opium, but his theoretic proofs are of no importance.

The fifth division presents some criticisms on various works directed against the system of Brown: these works are to the number of seven, and most of them insignificant.

M. Frank has communicated some observations on the mortality which prevailed in the general hospital at Vienna, by adding a list of the sick persons received, cured, or dead, in that hospital, between the year 1784 and 1799. The reflections which accompany this list prove much in favour of the system of Brown.

The book concludes with an account of such works as have appeared on that system; these are those of *Brera*, *Cappell*, *Lindemann*, *Schank*, *Knebel*, *Thoman*, *Weikard*, *Hinoly*, *Roeschbauh*, *Frank*, &c.

[Journ. Gen. de la Lit. Etrang. N° I. Année 10.]

ART. XVI. D. J. G. STARK, *Neues Archiv für die Geburtshilfe, &c.* i. e. *Journal of the Art of Midwifery, the Diseases of Women and of Children, considered with respect to Physiology, the Dietetic, and Surgery.* By J. G. STARK. Fourth number of the first volume. Octavo. Jena.

THE number we now announce contains four memoirs, of which three are relative to childbirth, to the solution of a stone in the bladder, to the disorders in the ears of children, &c. The fourth memoir relates to the physical education of man,



man, and M. Schlegel's account of some hereditary disorders, and of the healthy and robust constitutions possessed by people of uncivilized countries.

[*Journ. Gen. de la Lit. Etrang.* N<sup>o</sup> I. Année 10.

ART. XVII. *Versuch einer pragmatischen Geschichte der Arzneykunde*: i. e. *Essay towards a History of Medicine*. By KURT SPRENGELE. Vol. II. The second edition enlarged. 710 pages. Large octavo. With a plate. Halle.

IT was to have been feared that the study of botany, to which M. Sprengel seemed for some time to have devoted himself, would have caused much delay in the continuation of this work, which its acknowledged merit caused to be greatly desired. These fears have been agreeably dissipated by the publication of this new edition of the second volume, which contains, however, a period rather steril in the history of medicine, that is to say, from the institution of the methodical school to the restoration of the Greek medicine, or from the age before Jesus Christ to the seventeenth century of the Christian era.

The alterations which have been made in this edition do not consist in additions only; many of the details have been rectified, the various subjects have been classed in a new method, and more analogous to their nature, and many passages have been curtailed; for example; the history of the *Asclepiades* has been placed in the fifth section, immediately before the history of the methodical school, to which it serves as a kind of introduction; whereas, in the first edition, it formed part of the fourth section.

The doctrine of the *Asclepiades* has been much extended, its principles have been better developed, and many of its precepts more detailed.

Some other pieces, not less interesting, have been added, as, an extract from the *Zend-Avasta*, containing the Natural History of Zoroaster; the History of the Propagation of the Persian Theosophy among the Jews; the History of the Sects of the Essenians, their Doctrine, Manners, and Customs, drawn from Philo; the Origin of the Cabala, the injurious Influence it has had on Christianity mixed with the Pagan Philosophy; on the Cultivation of the Sciences, &c.

The



The author has introduced, (p. 264,) a description of a kind of itch, which was complicated with the famous plague of the year 541; and the introduction of the sixth section contains a sketch of the principal events of the world, and a view of the progress of such scientific and philosophical knowledge as relates to the history of medicine.

The chronological tables of that period have been augmented and made more perfect. The events of history, and those of medicine, have been arranged in separate columns, to facilitate the comparison between them. A table of general matters concludes the volume. The plate represents two amulets, an engraved antique seal, and a medal struck in honour of *Galen*.

[*Journ. Gen. de la Lit. Etrang. N° I. An. 10.*]

ART. XVIII. *Archiv für medicinische Erfahrung: i. e. A Collection of medical Experiments.* Published by EFFORS. Vol. I. Octavo. Leipsic.

A PERIODICAL work, destined to present the result of all new observations and experiments, could not fail to be acceptable to all who are connected with medical science. The plan of the editor equally embraces theory and practice. The first memoir of this volume is entitled *Of Experience in Medicine*, and serves to give a very advantageous idea of the work. The editor, at the end of his memoirs, has inserted some very valuable observations on the puerperal fever; and the four fragments on clinical medicine present also an exact account of the mortality in the general hospital at Vienna, relative to the treatment introduced by *Joseph Frank*. The volume concludes with the analysis of six important works on clinical medicine.

[*Journ. Gen. de la Lit. Etrang. N° V. Année 10.*]

## MEDICAL INTELLIGENCE.

Art. 19. *Query concerning the Secretion of Bile.*

A CORRESPONDENT, who signs himself Junius, has favoured us with the following observations.

“Anatomists and physiologists well know that the bile is secreted in the liver from the minute ramifications of the vena



portarum, a large trunk formed by the union of all those branches of the abdominal veins that return the blood from the various parts in the abdomen, supplied by the three azygos branches of the aorta, to wit, the cœliac, the superior and inferior mesenteric.

“ This singular distribution of venous blood through the liver, and consequent secretion from it, so opposite to the general law observed by nature with respect to other glands, has led many to inquire what good purpose so singular a deviation can be intended to fulfil. It is not my intention to detail the various solutions that have been attempted by these different inquirers; I shall hasten to conclude, by stating my conjecture, which has for its basis this apparently reasonable proposition, *i. e.* that arterial blood, as containing so large a portion of oxygen, as experience assures us it does, would be an improper fluid to have been employed in the formation of a secretion, whose most obvious property is that of alkalescency; and therefore I ask, May not the bile be secreted from venous blood, chiefly because such blood being deprived (in the circulation) of a great portion of its oxygen, affords no chemical difficulty to the formation of this important secretion?”

Art. 20. *Lectures on Botany.*

We are very glad to find that a taste for scientific pursuits is spreading rapidly through the metropolis. Some time ago Dr. Garnett began a course of lectures on botany at his own house, which have been so numerous attended, that he has been encouraged to begin another course at the Botanic Garden, Brompton.

Art. 21. *A new Preparation of Bark.*

Mess. Reece and Durie, of Henrietta Street, Covent Garden, have communicated to the editors of the Medical and Physical Journal, a new preparation of the Peruvian bark, termed by the French chemists, *Sel de la Garraye*, or *Sel Essentiel de Cinchone*; the former from its first having been made by the Count de la Garraye, and the latter from its containing the active or essential parts of the bark, and its deliquescent property on exposure to the atmosphere.—This volatile extract is obtained from a cold infusion of the bark carefully evaporated to a state of dryness by so gentle a heat that its volatile particles may not be dissipated or injured; and in order to render its exposure even to this gentle heat as short as possible, the evaporation is directed to be performed on a wide surface, as a large earthen plate; and when reduced to a perfect



state of dryness, it should not be thicker than thin glass, and nearly as transparent.—The produce of a pound of the best pale bark; not exceeding more than 9 drachms, must of course enhance its value; but 10 grains being equivalent to a drachm of the powder, it will not prove in practice much more expensive.

The Peruvian bark as a tonic medicine is more extensively and successfully employed than any other article in the materia medica; but through the bulk of a full dose of the powder mechanically irritating the fauces, stomach, and intestines, too often produces nausea, vomiting, or diarrhoea, so much to be dreaded in cases of extreme debility of the system, as typhus fever, &c. In such cases no other preparation of this valuable medicine affords a proper substitute. Through the great heat employed by chemists (for the sake of dispatch) in the preparation of the common extract, its volatile parts are dissipated, on the preservation of which its activity depends. The tincture, on account of the quantity of spirits retaining a proper dose of the extractive matter, is in many cases inadmissible. The decoction, by depositing its resin on cooling, and if hastily made, (too often the case by the apothecary's apprentice, or the apprentice's boy,) will prove little better than aqua pura, while a dose of the cold infusion, adequate to 10 grains of the volatile extract, would be more than the stomach would retain, or the patient persuaded to swallow. From these great objections this volatile extract is certainly exempt; and after the powder has been rejected or proved cathartic, it may with equal advantage be prescribed.—It is easily soluble in either a vinous or aqueous menstruum; in port wine it forms a grateful tincture; in camphorated julep, an efficacious mixture in synochus and typhus fevers; and in simple cinnamon water, a pleasant tonic medicine.—In two cases of phthisis pulmonalis, it has been administered with success in checking the colliquative perspiration and diarrhoea, without aggravating the cough, as the following mixture:

R. Ext. Cinchonæ volat. ʒj, Tinct. digitalis ʒij, Pulv. g. Arabic. Syrup. papav. alb. aa ʒß, Aquæ anethi ʒjv. M. Cap. coch. ij larg. ter die.

They have lately prepared a quantity of this volatile extract, which may be examined by any professional gentleman.

They have the same preparation of the yellow and red bark, the cascarilla and angustura, in forwardness. They have likewise just expressed a quantity of the *oleum e seminibus ricini* without heat, which is free from the unpleasant acrid



taste and dark colour of the castor oil imported from the West Indies.

Art. 22. *Progress of Galvanism in Russia.*

The present Emperor of Russia has paid great attention, and shewn the most lively interest, in the experiments on Galvanism, which were exhibited in his presence by Count de Mussin Puschkin, in December last, at the seat of Count de Stroganow.

Art. 23. *Dr. Pode's Medico-chirurgical Journal.*

In the Medico-chirurgical Journal, published at Copenhagen, by Dr. Pode, a late number opens with a declaration by the Faculty of Medicine, purporting that a foetus of 199 days' conception is susceptible of parturition, but without having all the symptoms of a perfect conformation, or being in a state to prolong its existence. In the same work appears a letter from a physician of Iceland to the faculty, in which he gives an account of the principal maladies which prevailed in that island in the course of the year 1799: we learn moreover from this, that there is no disease peculiar to the country.

Art. 24. *New Edition of La Grange's Manual of Chemistry.*

There has lately appeared at Paris the second edition, considerably augmented, of A Manual of a Course of Chemistry; or, the Elementary Principles, in Theory and Practice, of that Science; by Citizen Bouillon Lagrange. This new work, however, must not be confounded with that which appeared about two years ago, under the same title, as it differs essentially from it, both in the plan which the author has adopted, and in the manner in which he has executed it. In his first manual, Citizen Bouillon Lagrange only intended to present exact descriptions of all the processes, by means of which such and such other results were to be obtained. The avidity with which that work was bought up, quickly demonstrated the public conviction of its utility. The first edition being now entirely out of print, the author has judged it necessary to publish a second; but wishing to render it more interesting, he has made it his business to add some illustrations, which appeared to him proper to favour the study of chemistry, and to accelerate the progress of that science.

Art. 25. *Dr. Schrader's Journal of Botany, &c.*

Dr. Schrader, one of the most celebrated botanists of Germany, is publishing at Gottingen a Journal appropriated to the most important discoveries in the science of vegetables. This journal, written in German and Latin, appears every three months. Each number or volume consists of about 450 pages;



12mo. and contains three plates, which exhibit a number of figures. Dr. Schrader divides each number into four parts. In the first he publishes the memoirs which are addressed to him; in the second, he gives an extract of the new works; the third part includes the most important discoveries and observations in the science; and the fourth presents whatever is most interesting in the correspondence which the author maintains with the literati of Europe.

Although all the parts of botany are cultivated with the most brilliant success in the North of Europe, nevertheless the study of cryptogamy, that is to say, of the plants the sexual organs of which are difficult to discover, appears particularly to occupy the attention of the learned of those countries. It is to them we are indebted for the lights which have been diffused on this part of botany. The labours of Hedwig, Hoffman, Schrader, Humboldt, Persoon, Flugge, Stromeyer, &c. have dispelled the obscurity with which the nature and the reproduction of mosses and mushrooms were environed. The Journal here announced, and of which six numbers have already appeared, exhibiting, as speedily as possible, new discoveries and observations in all the parts of botany, cannot fail to be acceptable to all those who are interested in the progress of science.

Art. 26. *New Method of preparing acetic Acid.*

A new method of preparing radical vinegar, or acetic acid, has been given in the *Annales des Arts et Manufactures*, which is as follows:—Take any quantity of white vinegar, concentrated by the frost, and pour to it half as much concentrated sulphuric acid; then distil by mixture in a sand bath till the vapours of the sulphurous acid began to appear, when a light and strong-scented liquid is obtained, which, however, requires to undergo a second distillation before it is the real acetic acid. It has not yet been ascertained, whether the expense incurred be greater or less by this, than by the common method of obtaining radical vinegar, in which the acetite of copper is used. But it is certain, that acetic acid obtained by the new method may be used without the apprehensions excited by that sold commonly in the shops. The French chemist warns the ladies, who use it as a luxury, to reflect, that, when respiring its odour, they introduce into their lungs more or less copper, one of the most powerful poisons; at the same time he urges them to discountenance the former process, in order to introduce the acid made by himself.

Art. 27. *Method of disarming poisonous Serpents.*

It is well known, that in Egypt, India, and the hotter parts



parts of America that abound with poisonous serpents, there are certain individuals, who possess the power of entirely disarming these formidable animals, and are able to handle them with perfect impunity at the very time that any other person, approaching them incautiously, would be fatally convinced of their ability to destroy. This happy exemption is attributed by the people themselves to the preservative effects of certain vegetables, the knowledge of which has hitherto been carefully concealed. Many of the European philosophers have, however, treated the affair as a mere juggler. This state of uncertainty is now, happily for humanity and science, relieved by the most important communication from Don Pedro d'Orbieres y Vangas, which, if entirely to be depended upon, will entitle the communicator to rank high among the benefactors of mankind. Don Pedro is a native of Santa Fé, and, in the year 1788, being at Margarita, he met with a slave who possessed the power of charming the most venomous of the American serpents: after the Negro had exhibited his skill, he was induced by a reward to promise to discover his secret. The next morning he returned with the leaves of a plant, called *vejuco du guaco*, and having bruised them, in the presence of Don Pedro, gave him two large spoonfuls of the juice to drink; then making three incisions between the fingers of each hand, he inoculated the Spaniard with the same juice, and performed a similar operation on each foot, and on each side of the breast, after which he informed him that he was no longer accessible to the poison of serpents. Don Pedro then, after making the Negro answerable for any ill consequences, took into his hands several times one of the serpents that had been brought by the slave the day before, without receiving the smallest injury from the animal. Encouraged by this first attempt, two domestics, being in like manner prepared by the guaco-juice, went into the fields, and soon returned with another kind of serpent, equally venomous with the former, without sustaining any hurt; another person, being similarly prepared, and afterwards bitten by a poisonous serpent, received no further injury than a slight local inflammation. Since this period, Don Pedro has repeatedly caught serpents with his own hands with absolute impunity, employing no further preparation than merely drinking a little of the guaco-juice. The plant, whose effects are thus attested, has not as yet been admitted into any botanical system, but is amply described in a memoir by the Spanish gentleman already mentioned, inserted in



in a weekly paper published at Santa-Fé. It is of the compound-flowered or syngenesious class. The stamina are five in number, united by their anthers into a cylinder, through which rises the pistil with a deeply divided summit. The corolla is monopetalous, infundibuliform, with five indentations, and of a yellow colour; each calix contains four florets, and several of these grow together, forming a corymbus: the seeds are broad and feathered; the root is fibrous, perennial; the stem straight, cylindrical when young, but, when old, becomes pentagonal: leaves are heart-shaped, opposite, of a dark-green mixed with violet, velvety on the upper surface. It grows by the sides of rivulets, and in shady places, in the viceroynalty of Santa-Fé.

Art. 28. *St. Mary-le-Bone General Dispensary.*

Dr. Thornton having resigned his office as Physician to this charity, a meeting of the governors was convened, when, on account of the great increase in the number of patients, it was thought proper to appoint two physicians; and accordingly Dr. Temple of Bedford Row, and Dr. Garnett of Great Marlborough Street, were appointed.

Art. 29. *Uncommon Disease.*

The thigh of a woman who lately died at Geneva has been sent to the Medical Society of that city, as exhibiting a very extraordinary phenomenon. It is stuck quite full of small thorns, which the woman, it appears, had been in the habit of swallowing, and which gradually making their way through the intestinal canal and the blood-vessels, ultimately lodged in the femoral muscles. C. Albert is appointed to draw up a report upon the circumstances of this singular case.

A case somewhat similar occurred some years ago in the Infirmary at Nottingham. A woman was admitted as a patient, from one of whose breasts a number of pins were discharged with excruciating pain; and the disease was by her ignorant neighbours ascribed to the effects of witchcraft. The breast was obliged to be cut off, and the woman recovered perfectly; but, strange to tell, instead of being cured of a habit of putting pins into her mouth when undressing, and with which she often went to sleep, in some time after she returned to the Infirmary, and was obliged to lose the other breast.

Art. 30. *Linnæan Society.*

On Tuesday, the 11th of May, the Linnæan Society of London held their first meeting, (at their apartments in Panton Square,)



Square,) under a Royal Charter of Incorporation, wherein his Majesty was pleased to appoint the following fifteen first Fellows, to constitute the Council of the Society for the year ensuing, viz.

George, Earl of Dartmouth, F. R. S.

J. E. Smith, M. D. F. R. S. *President.*

Thomas Marsham, Esq. *Treasurer.*

Alexander M'Leary, Esq. *Secretary.*

Jonas Dryander, Esq.

The Rev. Samuel Goodenough, L. L. D.

A. B. Lambert, Esq. F. R. S.

R. A. Salisbury, Esq. F. R. S.

W. G. Maton, M. D. F. R. S.

William Lewis, Esq.

Th. F. Forster, Esq.

Charles Hatchett, Esq. F. R. S.

The Rev. Thomas Rackett, M. A.

John Symmons, Esq. F. R. S.

Thomas Younge, M. D. F. R. S.

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THE  
LONDON MEDICAL REVIEW.

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VOL. VIII. N<sup>o</sup> XLI. JULY MDCCCII.

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ART. I. *Annals of Medicine for the Year 1801: exhibiting a concise View of the latest and most important Discoveries in Medicine and medical Philosophy.* By ANDREW DUNCAN, Sen. M. D. and ANDREW DUNCAN, Jun. M. D. Fellows of the Royal College of Physicians, Edinburgh. Vol. I.—Lustrum II. Octavo. 548 pages. Edinburgh. 1802.

IN the analysis of the last volume of this work, our readers were informed that it was the intention of the editors to continue it in lustra, each lustrum to contain five volumes, and form, in some measure, a separate and complete work, with a general alphabetical table of contents annexed to it. The present volume is, therefore, the beginning of the second lustrum. It is divided, as usual, into three parts; the first containing a critical Analysis of Books; the second, Medical Observations; and the third, Medical News.

The principal subjects of the first part are necessarily in great measure anticipated by articles of the MEDICAL REVIEW. The only one which we have not yet noticed, is that entitled *An Account of some Experiments on the Origin of Cow-pox.*

By John G. Loy, M. D. published at Whitby.

The result of these experiments tends to strengthen the opinion of Dr. Jenner, that cow-pox has originally been produced from the grease of horses' heels. As we have not seen the work itself, we shall give the principal part of the analysis



presented to us by the learned editors of the *Annals of Medicine*.

“ Before giving an account of these experiments, he briefly relates the circumstances which gave rise to them. Early in the spring of the year 1801, Mr. Loy, surgeon at Pickering, in Yorkshire, had an opportunity of observing a disease in some men which had before been noticed in the western counties only.

“ His first patient was a farrier, who applied to him with an eruption on his hands, which was composed of distinct pustules, containing a thin fluid, and surrounded by an inflamed ring. The vesicles were all regularly circumscribed, and a small dark speck could be discovered in the middle of each, which appeared to be the remains of some slight injury. This man had been in the custom of dressing the heels of a horse affected with the grease, and he had never been subject to any such affection previous to that employment. He had no general fever. He had formerly laboured under the small-pox.

“ Another case, in many respects similar to the above, soon afterwards occurred to him. A young man, a butcher, at Middleton, near Pickering, was affected with painful sores on both his hands, particularly about the roots of the nails. These sores, in a few days, became inflamed, and a vesicle formed upon each. Soon after the appearance of the vesicle, a number of red painful lines, which appeared to be inflamed lymphatics, extended from the pustules to the arm-pit, where a tumour formed. He had also a pustule of the same appearance as those on his hands upon one eyebrow, which he said had been affected with an itching, inducing him frequently to scratch it. He had a considerable degree of fever, which continued obstinate till the absorption from the pustules was prevented, by destroying them with caustic, when the tumour in the axilla also dispersed. This patient, like the former, had been employed in applying remedies to the heels of a horse affected with the grease, and was continuing to do so at the time he began to be indisposed. He had never undergone the small-pox.

“ Mr. Loy took a quantity of matter from the pustules of the last patient, and inserted it into the arm of his brother, who had also never had the small-pox. In a few days after this inoculation, some degree of inflammation appeared; and on the eighth day, a vesicle formed. Slight feverish symptoms were



were observed for a day or two. The disease had exactly the appearance of the genuine cow-pox.

“ This information from Mr. Loy led Dr. Loy to perform the experiments which are afterwards related.

“ Dr. Loy procured matter from a pustule on the hand of the patient last mentioned. Part of this matter he inserted next day into the udder of a cow. For five days, no particular appearance could be discovered at the inoculated place; and it was not again inspected, till the ninth day: but at that time there was a vesicle on the part, surrounded by a rose-coloured rim. The udder, to a considerable distance from this vesicle, was hard, and so painful, that the animal could scarcely suffer it to be handled. The vesication continued to spread for some days; but at length a scab formed, and the place healed, without any remedy.

“ As a second experiment, Dr. Loy mentions, that matter procured from the udder of this cow, on the ninth day of her disease, was inserted into a child's arm. The progress of the inoculation was closely watched, and the inflammation, vesication, and scabbing, were found to correspond so exactly with those appearances, in mild cases of genuine cow-pox, that they admitted only of a similar description. On the sixth day of the disease, the child was inoculated with the small-pox virus. The wound, into which the small-pox matter was inserted, seemed to be rather inflamed on the third day. But in a few days more, it healed, and the child continued free from indisposition.

“ The third experiment was made, by inoculating a child in its arm with the remainder of the matter taken from Mr. Loy's patient. On the third day, the inoculated part rose above the level of the neighbouring skin. On the sixth day, it was surrounded by a dullish inflammation, and its edges were more elevated than the centre, which, on the eighth day, presented a vesicle, containing a limpid fluid, which soon burst from the vesicle; and, on the fourteenth day, was converted into a firm scab, of a dark brown appearance. As soon as an opportunity offered, this child was carefully inoculated with the matter of small-pox, which produced no effect.

“ Some of the thin limpid matter that issued from a sore in the heel of a horse affected with the grease, was inserted, as a fourth experiment, by a lancet perfectly clean, immediately after being procured, into the teat of a cow. On the fifth day, the wound appeared rather elevated, and a faintish redness surrounded it. In a few days, a vesicle formed, containing a



large quantity of watery fluid, and of a purple tinct. Though the inoculated part was tumefied and painful, the animal did not seem otherwise diseased.

“ In the fifth experiment, a quantity of limpid matter, obtained from the teat of this cow, was inserted into the arm of a child. On the third and fourth days, the incision appeared without any evident signs of having received the infection; but, on the sixth day, a considerable degree of redness surrounded the wound, and a vesicle was formed on the ninth day. The child was then inoculated with the small-pox virus in three different places, and in such a manner that there could not be the least doubt of communicating the infection, if the constitution was capable of receiving it. The child, however, was neither affected with any topical or general symptoms of the small-pox.

“ Dr. Loy's sixth experiment was performed, by inserting some grease matter, obtained from the same horse, in the arm of a child. On the third day, a small degree of inflammation surrounded the wound. On the fourth, the inoculated place was much elevated; and a vesicle of a purple colour was formed on the fifth day. On the sixth and seventh, the vesicle increased, and the inflammation extended, and became of a deeper colour. On the same day, a chilliness came on, attended with nausea and some vomiting. These were soon succeeded by increased heat, pain in the head, and a frequency of breathing. The pulse was very frequent; and the tongue was covered with a white crust. When in bed, the child was much disposed to sweat. By the use of some medicines, and by exposure to cool air, the feverish symptoms soon abated, and disappeared entirely on the ninth day. On the sixth day, small-pox matter was inserted into the same arm in which the matter of the grease had been placed, but at a considerable distance from it. On the fourth and fifth days of the small-pox inoculation, some redness appeared about the wound, and on the sixth a small vesicle. The inflammation now decreased; and on the ninth day, the vesicle was converted into a scab.

“ The last experiment related by Dr. Loy, was performed on five children, who were all inoculated at the same time, by matter taken from the child last mentioned, on the sixth day of the grease inoculation, and previous to the insertion of the small-pox virus. It is much to be regretted, that, from Dr. Loy's situation, he had not an opportunity of seeing these children till the tenth day after inoculation. On that day, he found that an extensive erysipelatous efflorescence surrounded the



the vesicles, which were now beginning to dry, but still contained a considerable quantity of limpid matter. On this day they were all inoculated for the small-pox, in the arms free from the cow-pox inoculation. Nothing appeared from the insertion of the variolous matter, except a very small degree of inflammation, which vanished on the fifth day.

“ From these experiments, Dr. Loy, among other particulars, concludes, that a disease excited in the human body, from accidental infection of the grease in the horse, is capable of being communicated to the cow, by inoculation; and that matter taken, either from the cow thus infected, or from the diseased heel of the horse more directly, is capable of giving a disease to the human body, by which it is rendered afterwards incapable of being affected with small-pox. These particulars afford, he thinks, a confirmation of Dr. Jenner's opinion respecting the origin of genuine cow-pox. Dr. Loy, however, admits, that the experiments which he made on this subject, were by no means uniformly successful: for he made several attempts to produce cow-pox, by the application of grease matter, as obtained directly from the horse. Matter taken from three different horses, at different times of the disease, did not produce, when inserted into the teats or udder of the cow, the least appearance of cow-pox.

“ To make a fair trial, various cows were subjected to the experiment, which always failed; and the same ill success attended a few trials upon the human subject. But, at length, he tells us he had the good fortune to meet with one horse, from whose heels he procured the matter of grease in a very limpid state, about the fourteenth day of the disease, and a week from the first appearance of the discharge. It was from this matter that he was able to give the disease both to cows, as related in his fourth experiment, and also to the human species, as related in the sixth.

“ From these facts, Dr. Loy has been led to suspect, that two kinds of grease exist, differing from each other in the power of giving the disease to the human or brute animal. This opinion is, he thinks, rendered probable, by another circumstance. The horses which communicated infection to their dressers, were affected with a general as well as a topical disease. The animals, at the commencement of their disease, were evidently, he tells us, in a feverish state, from which they were relieved, as soon as the disease at their heels, and an eruption on the skin, appeared. The horse too, from which he procured the infectious matter, which acted both upon cows and upon the human



human species, had, he observes, a considerable indisposition previous to the disease at his heels. This indisposition was attended, as in the others, with an eruption over the greatest part of his body. But those horses, from the grease of whose heels he was incapable of communicating any disease, either to cows or the human species, had, he assures us, a local affection only."

The first article of the Medical Observations is a *Singular Termination of a Case of Enteritis*. By Dr. Thomas Sanders, Physician at Chichester. Communicated to Dr. Duncan, jun.

The subject of this case was a young man of 22, who was on the 12th May 1800, seized with symptoms of enteritis, which, in a few days, became violent and alarming, being attended with obstinate constipation and vomiting of what could not be distinguished by its appearance or odour from liquid fæces.

"From the 18th instant, very little pain was complained of by the patient; although, in other respects, the disease seemed to be at a stand. At times there was singultus. The vomiting, as above described, occasionally returned; and liquid, and to all appearance feculent matter, was twice thrown off the stomach, in quantity hardly less than two quarts each time, to the considerable relief of the patient.

"In the mean time, though the body continued obstinately bound, some little abatement in the tension and soreness of the affected parts was perceived; but the skin covering the affected parts felt extremely hot; and the restlessness, thirst, want of sleep, and other symptoms of irritation, were rather increased than alleviated. In the state of the pulse, no considerable or permanent alteration was observed. At one time, (viz. on the 20th,) it failed somewhat in point of strength and regularity; but in general it continued tolerably firm, and somewhat hard; varying in frequency between 92 and 108.

"In the night between the 22d and 23d, a very copious and effectual evacuation by stool took place; and, on the day following, the patient, for the first time, complained of great acidity in the matters thrown from the stomach. From this period, all the symptoms appeared to recede. The vomiting became less frequent, and at length ceased altogether; and the soreness, tension, and heat of the belly, abated. Watchfulness, inquietude, frequency of the pulse, and thirst, remained, however, till the 26th instant; when the patient was well enough to be removed two or three miles into the country.

"His



“ His appetite and sleep were then fully restored. His body properly performed its functions. Nor had he any remaining complaint, except weakness, and some degree of flatulence in the bowels.

“ On the 27th, he passed, with a stool, a substance, which, on a careful examination, was found to be a portion of small intestine, measuring in its whole length at least twelve inches. Of this, the separation had taken place very obliquely at one end, and somewhat obliquely at the other; so that in the part separated, the intestinal tube was complete for the space of only about five inches. To this a portion of mesentery was attached.

“ Every where this discharged intestine was firm in its texture, and differed from its natural state only in being of a darker colour. The edges where the separation had taken place were ragged and irregular, and in some parts, to the length of an inch or two, were thickened into a whitish fleshy substance, of firm consistence. Within the intestine, and about the middle of that part of it which was entire, a seed of an orange was found, not at all adhering, but very liable to fix its point, (which was longer and sharper than usual,) into the inner coat of the intestine; so that it could not, in one direction, be pushed along the surface of that coat without great difficulty.”

The author of this communication refers to an instance of a similar kind by Mr. William Dougal, in the ninth volume of the Medical Commentaries. He is of opinion, that in the case now mentioned an extensive intromusception took place, with constriction so violent, as ultimately to produce a solution of continuity, with a degree of adhesive inflammation, sufficient for the purpose of uniting the parts divided, and, at the same time, so moderate, as to admit of resolution.

“ The seed of the orange which was found in the separated intestine, and which was more accumulated than usual, might produce,” he imagines, “ an irritation similar to that from worms, and thus give occasion to the intromusception and the consequent phenomena.”

2. *History of a Fracture of the Skull with very considerable Injury to the Brain, terminating in complete Recovery without any Operation.* By Mr. John Goodwin, Surgeon, Largo. Communicated to Dr. Duncan, sen.

In this case (which was of a child of five years old) the fracture was in the temporal bone; there was a loss of a portion of the brain, and symptoms of a most unfavourable kind



kind were present, such as feeble pulse, vomiting, and dilatation of the pupil. These gradually subsided, and in about three months a thin membranous skin covered the whole wound, the child being in perfect health.

3. *Cases of Chorea Sancti Viti terminating successfully under the Use of Zinc.* By Mr. David Alexander, Surgeon, Montrose. Communicated to Dr. Duncan, sen.

The first case is of a boy of 10 years of age, who had this complaint for more than two years. His head was shaved, a blister applied between his shoulders, and the cold bath ordered as soon as it was healed, together with the use of two grains of the calx of zinc every morning and evening, to be gradually increased: the dose was augmented to two scruples, when the disease went off, and did not return.

The second case was a sister of the boy now mentioned, whose fits were less severe: they were removed by doses of one grain of zinc gradually increased to a scruple.

In the third case zinc was rejected; it was, therefore, given by injection every night at bedtime, in the following way:

“R. Zinci usti, Castor. āā ʒj. Solv. in Sp. nitr. dule. Tinct. opii, āā ʒij, Aq. font. ʒj. M.

“This injection was continued regularly, and the quantity of zinc and castor increased to half a drachm each for every dose.”

The disease went entirely off in two months, and has not since returned.

The author entitles this a “Case of Chorea Sancti Viti terminating successfully under the Use of Zinc and Castor conjoined;” but he seems to have overlooked the employment of a very powerful agent, (opium,) which was at the same time used with the above remedies, and might reasonably be supposed to have some share in the cure, from its well-known property of allaying spasmodic motions.

4. *A Letter from Mr. R. W. Taylor, Surgeon, London, to Dr. Duncan, sen. giving an Account of two Cases of Vaccina attended with Eruptions.*

The eruption occurred on the twelfth and thirteenth days after inoculation, and went off in about a fortnight. It consisted of large red pimples, nearly as large as half a middling sized pea, rising above the surface of the skin, and hard to the touch. These pimples were perfectly distinct, and never shewed the least tendency to unite with each other, or become confluent, as it is termed, in the small-pox. The cuticle, between the pimples, remained of its natural colour; nor could



could he perceive the least redness beyond the base of the pimples.

5. *Extract of a Letter from Mr. John Livingston, Surgeon of the Cirencester East Indiaman, to Dr. George Kellie, lately Physician to the British Prisoners at Valenciennes: containing some Observations on the Benefit derived from Compression by the Tourniquet in the Removal of rheumatic Pains.*

This is a confirmation of Dr. Kellie's experiments on this subject, mentioned in a former volume of the *Annals of Medicine*. The relief was in general speedy and permanent.

6. *Observations on Cow-pox.* By Dr. Robert Hall, Physician, St. Pancras, London. Communicated to Dr. Duncan, sen.

“ Whether the small-pox has been originally derived from the cow-pox, seems to the author a question as yet far from being ascertained. A comparison of the phenomena of the two diseases, unquestionably evinces many points of affinity, in which they very much resemble each other; whilst, in other particulars, the difference appears scarcely less striking.

“ It is a fact, universally admitted by all practitioners, that the operation of any contagion of a specific nature, does not remove the susceptibility of the constitution to the action of any other essentially different. Since, then, it has been demonstrated by a succession of irrefragable proofs, that the cow-pox destroys the susceptibility of the constitution to the small-pox, we are reduced to the following alternative; either the contagion on which these diseases depend, is not essentially different, but only modified by particular circumstances; or the vaccine contagion, in shielding the system from the action of the variolous virus, acts in a manner contrary to the analogy of nature in similar cases.

“ A question, however, here naturally suggests itself: Why, if vaccine, and variolous contagion be not specifically different, does not the small-pox equally protect the constitution against the cow-pox? And, why are both the brute and human subject repeatedly susceptible of the latter disease?

“ Some individuals, we are aware, contend, that this fact is not sufficiently ascertained, so far at least as regards the constitutional disease; and that, in such cases, the affection is altogether local, in the same manner as sick-nurses are frequently affected with variolous pustules; or, at most, that any febrile indisposition which may occur, is merely symptomatic of local irritation.



“ Whilst we readily acknowledge, that this explanation is supported by analogical deduction, we must, notwithstanding, be permitted to observe, that reasoning from analogy, however direct, can never militate against accurate observation, and facts well ascertained. The result of Drs. Jenner and Woodville's experiments, as well as of some which I have recently made in my own family, would seem to lead to an opposite conclusion, and to render the universality of the exemption, from a renewed attack of this disease, somewhat questionable.”

From the discordance of sentiment on this point among practitioners, he is induced to think that more numerous and accurate experiments are wanting to authorize a positive conclusion on this subject. From some information received by him from a Mr. Gibson, a native of Scotland, and communicated in the present as well as the 7th article, he is inclined to imagine that the cow-pox has been found in the southern parts of that kingdom; but the evidence is too slight to place much dependance upon it, particularly when the fact might be readily ascertained by practitioners in the neighbourhood.

8. *Extract of a Letter from Mr. John Rook, of Montpellier, Old Works, Jamaica, to the Hon. Fr. R. Brodbelt, of Spanish Town; giving an Account of the Success of vaccine Inoculation in some Districts of Jamaica.*

From this it appears, that vaccine inoculation is very general and successful in Jamaica, not less than four thousand having undergone the disease in St. James's, Hanover, and Trelawney.

9. *Account of the Benefit derived from vaccine Inoculation, in combating an Affection of a very different Nature, a singular Disease of the right Arm.* By Mr. Robert Stevenson, Surgeon, Gilmerton. Communicated to Dr. Duncan, sen.

The symptoms were the following: “ B. N. æt. 26, (April 25, 1801,) complains of pain in the right arm; beginning in the fore-arm, and shooting up to the shoulder, and from that to the side of the head, as high as the angle of the jaw, from whence it goes down the right side.

“ She is unable to move the elbow-joint farther back, than to form a right angle with the humerus; nor can she make the radius move upon the ulna, but complains of intolerable pain in the whole arm, when it is attempted; but she can, with ease, move the hand to the other shoulder, and put in a pin on that side of the head. She moves the shoulder-joint pretty easily.

valid

When,



When, however, she attempts to move the scapula, it is attended with so much pain, as to make her desist.

“ There is constantly, both in the arm and side, an intolerable sense of heat, although the arm is not hotter than any other part of the body. She feels every external object cold, although it be considerably above the temperature of the arm itself.

“ She says, that every thing that is applied to it, excites the same sensation as if a piece of ice were brought into contact with it; and that this sensation shoots along the whole arm, and not unfrequently brings on shivering upon the whole body.

“ The temperature of the body is not increased; and she possesses, with the other hand, a capability of distinguishing heat and cold, like any other person.

“ The arm is not much swelled, but is at times a little red; and is very painful when any thing touches it, from the sense of coldness before mentioned.

“ The arm is painful, on moving the fingers; the first two phalanges of which, for these eight days, have been quite torpid.

“ Besides the sense of coldness, there is in the arm and sides a constant pain; the seat of which she cannot point out in any particular place, and it extends over the whole, and is, as she says, both in the surface and in the bone.

“ Both arm and side are more painful on being kept in one position, and are worse of consequence during the night; but they turn easier towards the morning, at which time she enjoys what sleep she gets.

“ She keeps the arm, when sitting, resting upon the knee; and bends to the right side, both in sitting and walking. The pain of the side prevents her from drawing a full inspiration; and is most distressing either when she sneezes or coughs.

“ Countenance dull, from the want of sleep; little or no headach; appetite pretty good; no thirst; belly rather costive; pulse natural, scarcely so full in the arm affected; catamenia regular.”

Purging, bleeding, and blistering, were employed without advantage. “ At last, however,” says the author, “ the idea struck me, that if I could excite an artificial fever in the body, it might tend to carry off the affection of the nerves of the side, by causing any equal distribution of the nervous fluid, or at least take off the irritation from the arm; as I knew, that



both paralysis and epilepsy are extinguished by fever supervening upon them."

With this view she was inoculated with the cow-pox on the 16th of May, and in the progress of this disease, (which went through its usual course, though about two days earlier,) till the 8th of June, she became gradually better, and was on that day thought to be perfectly cured.

10. *Cases of vaccine Disease.* Communicated by Mr. Ranken, Surgeon, Douglas, to Dr. Gillespie, Physician, Edinburgh.

In these there is nothing remarkable.

11. *Account of a Deception with respect to vaccine Inoculation.* By Dr. John Forrest, Physician, Stirling. Communicated to Dr. Duncan, sen.

In the case here mentioned, the author inoculated a child with what he thought vaccine matter, but the disease proved spurious, as the child in a few days afterwards received the cow-pox by inoculation in its regular and usual form.

12. *History of a Case of imperforated Hymen.* By Mr. Francis Stæyner, of Henrietta Street, Covent Garden. Communicated to Dr. Pearson, Physician, London.

13. *Account of a Case in which the Anus was wanting, successfully cured.* By Dr. William Kennedy, Physician, Inverness, and Fellow of the Royal College of Physicians, Edinburgh. Communicated to Dr. Duncan, sen.

These two cases are similar to several others which have been recorded.

14. *Account of Diseases of the 88th Regiment during their Passage to India, and at Bombay, from December 1798 till June 1800.* By Mr. J. Macgrigor, Surgeon. Communicated by Dr. Garthshore, of London.

The principal observations are confined to dysentery and hepatitis, which the author considers, if not the same disease, at least most closely allied to each other.

"Of the two diseases," says he, "544 cases occurred during the year; and of these, forty, or nearly one thirteenth, died. Of those that died, we inspected the bodies of twenty-two, and in sixteen of these we found the liver diseased. Of those having diseased liver, six had it in the right lobe, one in the left, two in the right lobe and lobulus Spigelii, two in the right and left lobe; and, in three cases, the three lobes were in a state of suppuration. In one case, who had likewise ascites, the liver was scirrhus; and, in another case, the liver



liver had an inflamed appearance. In a majority of those having diseased liver, the gall-bladder was found turgid with bile; and in one case, a concretion, of the size of a ground-nut, was found in the gall-bladder.

“ So large a proportion, as sixteen out of twenty-two cases of dysentery and hepatitis, taken together, having, on dissection, evident marks of diseased liver; the natural conclusion is, that dysentery is almost always connected with a disease of the liver, as a cause. That the diseases are, however, sometimes distinct and separate, we have satisfactory proof of, even from these dissections. In others of our dissections, the disease in the liver was inadequate as a cause of death. In Sergeant Ives's case, though he had been ill nearly five months with dysenteric symptoms chiefly, on dissection we could discover only one small abscess in the inferior edge of the right lobe. The rest of the substance of the liver was perfectly sound; and it was evident, that an highly diseased state of the intestines was the cause of his death. The same was the case with Proctor, who had been ill a much longer time: the very small ulcer, which we found on the concave side of the right lobe, was inadequate as a cause of his death.

“ A large proportion of our cures, too, are by remedies that have never been supposed to operate on the liver. But it must be confessed, that our cures, by these remedies, were more frequent and certain, soon after our arrival in India, than they of late have been.

“ In one case (Coonan,) we found a live worm, of the lumbricus kind, in the colon. In another case, the same kind of worm was repeatedly ejected from the stomach. In Mullen, Casey, and Randall, we found intus-susceptio of the colon. In two cases, we found the kidneys diseased, having vesicles on different parts of their convex surfaces.

“ From the result of the dissections, it appears, that as the abscesses were seated in the right lobe in only six cases, in that number only could an incision have been, with any degree of safety, ventured on.

“ Our cures of both hepatic and dysenteric cases, in by far the greater number, have terminated by resolution, or by ulcers healing internally. In three cases of hepatitis, abscesses in the liver found their way into the intestines. In one case only, did the abscess point outwardly: an opening was made, and the case is now doing well. In two of the fatal cases, the right lobes of the liver and lungs communicated; and a mixed bilious manner was coughed up.

“ In



“ In the treatment of dysentery and hepatitis, though, during the first three months, we used a variety of medicines, and with considerable success, as may be seen in the tables of results from those remedies, yet we soon found, that mercury, and analogous remedies, were to be the most generally relied on.

“ In the first three months, we used ipecacuanha root, nux vomica, camphor, assafoetida, diluents, &c. in sixty cases. The nitric acid we tried in about 200 cases; and, in general, with great success. The remaining cases were treated by mercurial preparations.

“ Dissection shewed us, that, in some dysenteric cases, death was occasioned by the diseased state of the intestines. We found large ulcers seated in the great intestines, and within the reach of enemata. We used a variety of articles with this intention: solution of sublimate, nitrous acid, plumb. acetat. zinc. vitriolat. Peruvian and Angustura barks, infusion of ipecacuanha, and extract of logwood. The last I have very often found to afford the greatest relief, especially when an opiate was added to it.

“ When the symptoms indicated a suppurating state of the liver, I have never seen any medicine serviceable. In this stage I do think that I never found mercury do good; and I have exhibited Peruvian and Angustura barks without benefit. If I could suppose any remedy to be beneficial, it was the acid.

“ The returns shew, that several of our cases terminated very rapidly. Though at first afraid to bleed, I have since learnt, that, in the first stage, this operation was of the greatest use. We have had several cases, where there could be no doubt, that two, and even three bleedings, with the application of a blister, cut short the disease, and removed it in a few days.

“ In cases where the acid and mercury were extensively used, and persevered in, but where a flow of saliva could not be induced, I do not recollect a single instance terminating favourably.

“ With mercury we have failed in affecting the gums, and have afterwards succeeded with acid; and, again, we have failed with acid, and have succeeded with mercury; and, in some cases, have failed with both separately; and have succeeded by conjoining these remedies.

“ One fact we are clear and decided in, that the injury to the constitution is infinitely less from the acid than from the mercurial



mercurial ointment; and that men are not half the time convalescent from the first that they are from the last remedy.

“ The causes of dysentery and hepatitis are, by medical men, pretty generally agreed on. Our limited and short opportunities of observation only shew, that heat, moisture, exposure to the sun, and intemperance, were, with us, very active as causes.

“ One circumstance we cannot omit mentioning, that of twenty-two cases, which we inspected, eight, or more than one third, were sergeants, who, of course, are the most steady and temperate, but who, from a particular regulation, are the most exposed to fatigue and exercise in the sun.

“ A loss of one fourteenth part of a regiment, in the first year, in this climate, we learn, is as small a proportion as most newly-arrived European corps have suffered in the same period.

“ Yet this proportion of deaths is very considerable, and, if continued, would, in a short period, exhaust a corps. In a political and economical view, this waste of men is alarming. And, were we to calculate what a loss of forty-three European soldiers amounts to, it would be highly worthy of the Honourable Company to take measures to lessen this waste of men; and that the gentlemen who direct the medical affairs in the country, could suggest those measures, there can be no doubt. Though, to new-comers, sickness is, in a great many cases, unavoidable; yet, perhaps, in as great a number of cases, the causes of sickness might be, if not always obviated, often lessened.

“ Our loss had not been solely confined to men. Of thirty-five women who landed with the regiment in India, five died during the space of twelve months. Of nineteen children, who were either landed at Bombay, or born during the above period, thirteen died; and all of them were under five years old. This mortality, it is hoped, we shall be able to lessen.”

15. *Observations on the Use of the Muriat of Barytes in scrofulous Affections of the West Indies, and in a singularly painful Disease arising from the Bite of a Negro.* By Dr. Simon Armstrong, of the Island of St. Vincent. Communicated to Dr. Duncan, sen.

A case is related in which an obstinate scrofulous affection in a negro woman was cured by this remedy in the space of five months. Four drops of the solution were given in a glass of water morning and evening, and gradually increased to twenty. Another is given, in which a wound festered from



the bite of a negro, and it became necessary to amputate the finger on which it was situated. In a month after, tumours appeared in the axilla of that side, on the clavicles and cranium; which afterwards suppurated, wasting the glands and muscles of the parts so, that the bones became conspicuous.

Mercury was given without effect, but in two months the disease was removed by the muriat of barytes. This effect of the bite of negroes the author states from authority to be very common, and attributes it to the tartar on the teeth, as he found that a sore festered from a small quantity being applied to it.

16. *On the Use of the Cuprum Ammoniacale in the Cure of Epilepsy.* Communicated in a Letter from Dr. William Batty, Physician in Genoa, to Dr. Duncan, jun.

It was given conjointly with extract of valerian: the dose is not mentioned.

17. *Observations on a Case of Zona, on the Cow-pox, and on Angina Pectoris.* By Dr. Albers, Physician at Bremen. Communicated to Dr. Duncan, jun.

The following is the case of zona: "On the 15th September 1800, a girl twenty-four years of age, felt severe pungent pains on the surface of the lower half of the left breast; and on examination, it was covered with an eruption. Two days afterwards, pustules appeared on this eruption; and as the pain still continued, I was called in on the third day. The eruption extended from the sternum to the spine, round more than half the circumference of the body. It consisted of spots of different sizes, which were evidently formed of small pointed pustules, whose bases run into each other. The spots were also connected with each other by distinct pustules. The first spot was on the sternum, between the breasts, and run downwards. The second stretched three fingers breadth under the left breast, and then mounted to the nipple. The third run upwards, and covered the side. The fourth mounted to between the shoulders. The fifth, which consisted of about thirty pustules, began at the upper extremity of the former, and extended to the right side about a hand's-breadth beyond the spine, in such a direction, that it formed an acute angle with the former spot. On the 7th day, the eruption had the appearance of confluent small-pox, and seemed to contain pus. This, however, was not the case; for they only contained a watery fluid. The first pustules were opened by the patient with a needle, on which they assumed a grey colour, but gradually filled again with fluid, and again became white. On the tenth day, the eruption



tion was completely dried up; a few places only had the appearance of the crust, which forms upon the eruption which often occurs at the corners of the mouth."

On the cow-pox the author remarks, contrary to the experience of this country, "that the only unpleasant circumstances, which have been observed by me, as well as some other physicians here, are chronic eruptions, and glandular swellings, which almost always terminate in suppuration."

On the case of angina pectoris no practical remarks are made.

18. *Extract of a Letter to Dr. Duncan, sen. from Mr. James Anderson, sen. Surgeon in Edinburgh, concerning the Use of the mild Muriat of Quicksilver in the Cure of Croups.*

This is a confirmation of the author's practice in some cases formerly mentioned in the Annals of Medicine. "Of late," says he, "a considerable number of cases of croup have come in my way, and I have had reason, in some of them, where the symptoms were urgent, to push the medicine to a greater extent than formerly. I have given to one child of three years old, eighteen grains of the calomel in the space of twenty-four hours, in doses of two or three grains every hour, according to the urgency of the symptoms.

"To another child of four years old, I gave forty-five grains, within fifty hours. In no case has the medicine produced any violent evacuation, nor have the patients been griped by it as one might have expected. Of seven cases in which I have used it within these two last months, not one has died."

19. *Observations on a Case of Diabetes insipidus, with an Account of some Experiments on the Urine.* By Mr. Thomas Jarrold, from Essex, Student of Medicine at Edinburgh.

This is the case of a young woman of 19, who was admitted into the Edinburgh Infirmary for menorrhagia, and in whom the complaint which gave rise to those experiments was first remarked, by her urine being measured on the exhibition of some diuretic medicines, given with a view to remove an œdema of the legs remaining after the menorrhagia had gone off. Inordinate thirst and a profuse discharge of urine came on with the menorrhagia about two months before, in consequence of a violent exertion to keep herself from falling.

Her urine, which was without any sweet taste, was "often found to amount to upwards of fifty pounds in the space of twenty-four hours, sometimes even to sixty, and one day to



seventy-two pounds ; and from excessive thirst, she employed nearly an equal quantity of liquid, by way of drink. After a trial of different remedies, her urine and drink were reduced to between ten and five pounds in the day, under the use of the powder of galls and lime-water ; and she was dismissed from the Hospital in good health about the middle of August."

The urine was similar in its sensible qualities to that of a healthy person, and its products were the same, though in smaller proportion than natural, " except the muriatic acid, which was often in excess."

As the urine in one day became ammoniacal, and somewhat putrid, the author was disposed to consider this as owing to the presence of mucilage ; and from some experiments afterwards related, he is disposed to think this idea favoured. The nutgalls and lime-water were employed by Dr. Gregory in this complaint, merely from the change produced by them in one of the experiments mentioned ; but they were given when the disease was on the decline.

20. *Observation on bilious Disorders.* Extracted from a Letter, dated from the River Ganges, in September 1770, written to a Friend in London. By John Sherwen, M.D. formerly Surgeon in the Service of the Honourable East India Company, now Physician at Enfield. Communicated to Dr. Duncan, sen.

Marsh miasmata, heightened and rendered active by putrid animal effluvia, contributed much, according to the author, to the extraordinary fatality of this season ; but these were materially assisted by intemperance in eating and drinking, and irregularity in other respects, or anxiety of mind. He refers the bilious remitting fever, the dysentery, and the cholera morbus, all to the same occasional causes, which he divides into three classes :

1. The effect of climate.
2. Irregularity in diet.
3. Passions of the mind.

To obviate the effects of the first head, the author recommends, that a person who wishes to preserve his health should procure a situation as high and elevated as possible during the sickly months ; should avoid night air ; should take Peruvian bark, or infusion of colombo, and occasionally small doses of cooling aperient salts.

With regard to diet, the author contrasts the good health which the natives enjoy who live entirely on vegetable food, with the diseases to which Europeans are subject, who indulge



in the luxuries of the table. He thinks the change to vegetable food entirely should be gradual; that the best wines for the East Indies are claret, hock, and Vidonia, or Teneriffe; and that there is no objection to sleeping in the middle of the day.

He gives a description of an usual dinner in Bengal, which, so far from being at all accommodated to the climate, is entirely in the style of the mother-country.

The author concludes his paper by mentioning the effects of passions in producing or favouring disease. Some remarks on the practice in bilious disorders are promised in a future volume.

21. *Letter from Dr. Paisley of Madras, on the bilious Disorders of that Climate.* Written in 1771. Communicated to Dr. C. Smith of London.

The principal part of the observations contained in this communication were made upon the case of a gentleman who laboured under a flux for fifteen months, and was not relieved by any of the numerous medicines given to him. His complaint, as well as fluxes of all kinds occurring in warm climates, the author considered as arising from obstructions, which are found to exist in the liver and mesentery, but chiefly in the former.

In his remarks on the case of this patient, he gives his principal practical observations on obstructions. "At present," says he, "his liver is only enlarged, and hard, but no pain there; his flux is accompanied with gripes and tenesmus, and his look is bloated and sallow; his urine, too, is very high coloured; this appearance, by the by, never fails to attend liver-disorders of any consequence, though it now and then happens in nervous habits, in diseases of the bile itself, or from the situation of the obstruction, that it is either pale, or but little if it all discoloured; but, in general, it is a material index to diseases where bile prevails. When obstructions of the liver exist, the first digestion goes on very imperfectly; therefore the first indication in his case, is to clear the bowels of bile, phlegm, and other causes of irritation; the second, to remove the obstruction of his liver; and, lastly, to recover the lost tone of his intestines, and to strengthen his system in general. In recent cases, castor oil, where a tenesmus is troublesome, is a good purge. It operates effectually, disengages much glutinous bilious stuff from the flexures of the duodenum and colon, and as it does not enter the blood, it creates little disturbance in the system. It is, therefore, I say, in recent cases, an eligible purge; but in his, where the  
bowels



bowels have been much relaxed and weakened, rhubarb, quickened with calomel, or soluble tartar, is better adapted to answer the first intention, repeated once or oftener, according to the nature and complexion of the excretion.

“ Proper evacuations having been made, the second indication is to be answered by mercury, administered but slowly, as his complaints are of long standing, and his habit much relaxed; however, one dram of mercurial ointment will be rubbed into his side daily, and ten grains of a pill composed of equal parts of mucilage, mercurial pill, and ipecacuanha, will be given him night and morning; or the following :

“ R. Spec. aromat. gr. vj, Vit. cerat. antimon. Calomel. opt. levigat. aa gr. iij, Confect. alkermes, q. s. Ft. bol. mane et vespere sumendus.

“ These to be continued till the mercury fixes in his mouth, and by these means the obstructions will be gradually removed, and the load of scirrhus humours that flow to his bowels in their present relaxed and irritable state, will be derived to his mouth, by which the bowels will gain a truce from evacuation. As the obstruction is removed, the urine and stools will grow more natural, and every secretion less diseased.”

The third indication is to be answered by “ gentle bitters of the least astringent kind. Bark, which in most cases of weakness and relaxation is an invaluable medicine, in liver cases is a poison. The Flor. chamomel., Sem. carui, and Sal polychrest., each ʒ, will make two cups of bitter tea, to be drunk before and after noon. This medicine, with proper diet and exercise, will be sufficient to re-establish him.

“ Opiates the author considers as dangerous medicines in fluxes, and are always to be used with the most fearful caution. Early in the disorder, where the case is putrid or inflammatory, they should be used on no account. Suspending the evacuation for a night, may bring on a fatal mortification. In more chronic cases, a freedom from gripes, the smell and nature of the evacuation by stool, are the only criterions to direct the use of them; for no retentions are to be made of any thing putrid or acrimonious; in short, in a climate where all the capital diseases arise either from putrid bile or obstructions, nothing must be shut up.—As for astringents, they are often dangerous medicines in fluxes, and always precarious, and cannot be used with safety until all obstructions are removed, and with them every thing that is putrid or diseased. In acute cases they have fatal effects; in the more chronic kinds, they pamper and protract the disorder, with all its concomitants, gripes,



gripes, tenesmus, &c. When the disease becomes a simple diarrhœa without gripes, or with them, arising only from wind, equal parts of the Cort. prunor. sylv. and the Conserv. aurantior., or Confect. cardiac., is an elegant and safe astrigent. The Tinctura cort. cascarill., cold bathing, and exercise, recover the constitution from a state of relaxation."

The author concludes by some remarks on coughs and agues; both which, he thinks, have frequently their origin from obstructions in the liver, and require for their removal the general plan of treatment above mentioned.

The following remarks are made on the employment of mercury. "This remedy," says the author, "in judicious hands, is a safe and tractable medicine; and as it is the only powerful or effectual deobstruent in glandular obstructions, it is, of consequence, the only medicine to be depended on in those latent defects of the system, which entail diseases, or impede recovery. However, it often requires assistance from other medicines; from exercise, and from medicated aqueous medicines, which wash the glands, and increase the secretions; and, in general, it requires assistance, consistent with the effects diseases have had on the constitution; for example, in venereal and other habits, where the solids are much relaxed, the blood poor and flimsy, mercury without bark will spread every ulcer, induce febriculæ, and aggravate symptoms. In acute diseases, evacuations, neutral and relaxing medicines, render it safe and effectual."

22. *Letter from Mr. Young, relating his own Case, in which an enlarged Spleen was cured by the Application of the actual Cautey.* Communicated by Dr. Carmichael Smyth of London.

Enlargement of the spleen is generally symptomatic only; it is called by Europeans in Bengal *boss*, by the natives *pillé*, and in Europe *ague-cake*. The author's complaint originated from a bilious fever, and resisted the treatment of both European physicians and a native doctor.

At last, however, he was induced to try the actual cautery, which is so universal a remedy for this disease among the natives, that there are few of the Bengalays who are not marked by it. "I knew no instance," says the author, "of any European having ever submitted to it; but anxious for health, I was determined to try it. The great difficulty was to find an operator, and it was some time before I could find a man to perform it on me. At length I proclaimed a reward of fifty rupees to any person who would perform it. The next morn-



ing, an old man, with a venerable grey beard, presented himself for the purpose, who told me he was an experienced hand, and that, though I was a white man, he was not afraid to undertake my cure in the usual way. He had all his instruments with him, and I conducted him to my habitation with great joy. The tea-kettle was on the chafing-dish for breakfast, and he put his instruments in the fire. These were fixed in wooden handles, and were of two sorts; one resembled round-headed nails, such as are used for fixing on the *tires* of coach-wheels; the others were something like those hooks we use in India for supporting pictures and looking-glasses, a little better than an inch in length, and about half an inch broad.

“ I was desired to strip, when he felt and examined me all over the diseased part; and finding that the spleen, on pressure with his fingers, yielded, and then recovered itself with a spring, like the elasticity of the crown of a hat, he thence drew a favourable omen. The fact, I conclude, was, that he found it was not become scirrhus; for he observed, that, if it had been hard, he could not answer for the cure. He then proceeded to the operation, as follows:—He took out a sort of awl, such as is used by the shoe-makers of that country, not pointed like ours, but somewhat resembling the instrument used by carpenters for making holes in deal fir-boards; and next a small horn. I asked what these were for; his answer was, that, with the awl, he should pierce into the substance of the spleen, and with the horn, by suction, draw blood from the part as long as it would flow. I started at this, and objected the tabid state of my body against that part of the operation, and that a mortification would probably be the consequence. He laughed at the idea, and asserted he had done it to thousands, and never knew a single instance of its being attended with any bad effect; but, as he could not make me a convert to his opinion, he proposed a less hazardous method, which I submitted to readily.

“ He then took a kind of lancet, such as the people of the country pare their nails with, and, pinching up the skin over the spleen, gave it several slices; and then applying the horn to the scarification, drew, by suction, about a wine-glass of blood, in the nature of cupping. When it would no longer flow, he next applied common oil to the parts where he intended to apply his irons: they were heated to a red heat: he first took out the one of a hook-like shape, which he applied to the left side, over the body of the spleen, in three places, holding  
it



it on a few seconds each time. He next took out a round-headed one, and burnt me in like manner, first in the centre of the angle made by the former; then a few inches above the first; next on the pit of the stomach; and, lastly, on the right side, over the region of the liver.

“The operation was made on my well day. He also gave me a lixivium made of some sort of ashes, to take daily, which I found so excessively nauseous, that, after swallowing one dose, I would take no more. I expected my ague fit the next day, but happily it did not recur, and came no more. The whole region of the stomach and abdomen became exceedingly sore and inflamed; nor could I move without turning my whole body for several days. The glands of my groin and axilla on the left side likewise grew sore, inflamed, and hard, which extended up the neck, and down the muscles of the thigh and leg to my ankle. This gradually subsided, and the sores, from the cauterizing, dried up, and healed without any application whatever; nor was there any suppuration or discharge worth mentioning. In a few days, I found the anasarca of my legs gradually subside; my stomach diminish; the spleen, before so greatly enlarged, retired to its place under my ribs, and could no longer be felt: my appetite returned, and became ravenous; my strength and flesh daily increased; and, in less than six weeks from the operation, my health was so completely restored, that, when I removed to another part of the country, about thirty miles distant, I walked the greater part of the way with my gun in my hand; and I had become more fleshy than at any former period of my life; I had likewise grown in stature three quarters of an inch. In short, the operation was like magic.

“If I am asked my opinion, I shall say, that the powerful stimulus of the fire applied to the region of the spleen, gave action to that viscus, and enabled the absorbents to take up the obstructed matter which caused my disease, which was beyond the power of medicine to reach: and, although the faculty has not been able to settle the use of the spleen; yet it is evident from my case, that when it is diseased, the effects are serious to the animal economy. The cautery, though only practised upon horses in this country, is much used in India in many diseases besides this. It is often applied to the head in obstinate headaches; to the scrotum for the hydrocele; and I know one instance of its successful application in a confirmed ascites.”

The



The section on Medical News commences with  
*An Account of the epidemic Disease which raged in Cadix in Summer and Autumn 1800, with the Method of Treatment.*  
 From the Barcelona Gazette. Transmitted by Dr. Batt of Genoa.

The symptoms were those of a fever of high malignity, and the mortality was very great. By a Table which is annexed it appears, that in nine cities which were affected with this pestilence, there died, between the 12th of August and the 1st of November, a proportion of 285 in 1000, or more than  $\frac{1}{4}$  of the whole population. The number of inhabitants in these cities amounted all together to 279,000, and the deaths were 79,500.

Various medicines were employed, but those which seemed to be attended with the best success were gentle emetics and cinchona.

The second article is the  
*Return of effective Men and Deaths in the 72d Regiment, from October 1785 to October 1788, while stationed at Tanjore on the Coromandel Coast.* By Mr. Wood, Surgeon to the Regiment.

3. *Extract of a Letter from Dr. Pearson of London, on Mr. Chenevix's Mode of preparing James's Powder by Precipitation, &c.*

This preparation was noticed in our review of the Philosophical Transactions.

4. *Extract of a Letter, written by Dr. James S. Stringham, of New York, to Dr. Duncan, concerning vaccine Inoculation.*

5. *Account of vaccine Inoculation at the Public Dispensary of Edinburgh.*

6. *Account of Professor Reisch of Erlangen's Treatment of febrile Diseases with mineral Acids.*

The muriatic acid was that principally employed; it was given in very large doses, and frequently repeated.

The volume concludes, as usual, with some recent notices on galvanism; an announcement of intended medical publications; an account of eminent professional men lately dead; a list of members admitted during the year 1801 into the Royal College of Physicians of Edinburgh; the state of the thermometer, barometer, and rain, at London and Edinburgh, during the year 1800; and a list of new books, which enumerate the theses published in 1801 at the university of Edinburgh.



ART. II. *A general System of Nature through the three grand Kingdoms of Animals, Vegetables, and Minerals; systematically divided into their several Classes, Orders, Genera, Species, and Varieties; with their Habitations, Manners, Economy, Structure, and Peculiarities.* Translated from GMELIN's last Edition of the celebrated *Systema Naturæ* by Sir CHARLES LINNÉ: amended and enlarged by the Improvements and Discoveries of later Naturalists and Societies, with appropriate Copperplates. By WILLIAM TURTON, M. D. Author of the Medical Glossary. Part I. Animals. In 4 vols. octavo, each about 950 pages.

A WRITER who should undertake "a translation of the *Systema Naturæ* of Linneus, amended and enlarged by the improvements and additions of later naturalists," ought to possess no small degree of confidence in his knowledge of language, in the extent and variety of his information, and in the solidity and accuracy of his judgment. To execute the office of a translator simply of that celebrated work, is far from being a trifling task; for it employs a language in a manner its own, and few of the terms are transferable into the English tongue. But when, in addition to this task, we reflect upon that of correcting the inadvertencies of the original author, and the almost inextricable errors of the latest of his editors, (Professor Gmelin,) and also of subjoining the infinity of new species, in every family of nature, discovered within the last ten years, it must be matter for wonder if there should be found any *individual* to undertake it. Such an individual, however, has actually appeared in the author of the Medical Glossary, to whom we gave credit for ample industry, but whose accuracy, in the execution of that work, was so far from being unimpeachable, as to call for particular vigilance in following him through the present.

The first circumstance that struck us, in cursorily turning over these four first volumes, was the total omission of the references in some classes, the very partial use of them in the class *Insecta*, and the liberal introduction of them under the *Vermes*. A passage in the preface had led us to believe that references were wholly omitted, and we are of opinion that Dr. Turton would have done wisely in adhering strictly to such a resolution.

"The numerous synonyms and references," says he, "I have omitted, as they would so considerably have enlarged the bulk of the work, without adding a proportionate value. The



various subjects of natural history are so accurately described, that no doubt can remain as to the individual." With respect to the *inferiority of value* of the synonyms and references, we must here beg leave to enter our protest against the assertion, and we defy the most learned of Linnæan scholars to determine some (nay *half*) of the species without such auxiliaries. In fact, it would seem that our author himself became sensible of the defectiveness of mere description as he advanced in his work, (and especially when he arrived at the *Vermes Testacea*), otherwise he would not surely have entered upon an arduous task, which he had previously excused himself from executing. Be this as it may, we very soon acquired sufficient evidence that, in transferring Gmelin's references into his own work, Dr. Turton has not rendered them less free from inaccuracies; the most glaring blunders of the Professor are copied *verbatim*, without even the slightest modification or amendment. Let the following instances suffice, viz.

BUCCINUM MURICINUM.

The only reference here is *List. Conch. tab. 926. fig. 19*. If the reader will turn to *Murex clathratus*, he will find the same figure of the same author quoted!

STROMBUS AURITUS.

*List. Conch. tab. 121. fig. 16*. This very figure is afterwards made to serve for *Murex fasciatus*.

STROMBUS ACULEATUS.

Here our author has very properly omitted the reference to *fig. 17. of List. Conch. tab. 121.* which is no other than *Murex fasciatus*, where it is afterwards quoted; but, in mentioning the plate only, without any figure, he exposes the reader to the risk of taking *fig. 16.* which we have just now mentioned, as being appropriated both to *Strombus auritus* and *Murex fasciatus*; consequently, as there are only two figures in that plate, he cannot be right in quoting the latter at all.

Besides *plate 121.* a reference is made also to *plate 122.*; and here again no mention is made of the specific figure: if *fig. 20.* be meant, which is the one quoted by Gmelin, *that* is appropriated by the Professor to *Murex fluviatilis*, as well as to *Strombus aculeatus*; if *fig. 18.* it is *Murex Sinensis* of the same author and of Dr. Turton; and if *fig. 19.* the characteristic description is wholly at variance with it. *Argenv. Conch. tab. 11.* is *Murex fuscatus* of Linnæus himself, for which it is a second time quoted both by Gmelin and his copyist!!

HELIX TRIFASCIATA and HELIX LÆZA.

*List.*



*List. Conch. tab. 33. fig. 31.* is referred to for *each* of these species !

HELIX JAMAICENSIS and HELIX PULLA.

These species also are confounded in a similar manner, by referring for both to *List. Conch. tab. 42.* which, after all, appears to us to be no other than *Helix hæmastoma Linn.!!*

But we have not done with Dr. Turton on the subject of references. Why has he disturbed the usual chronological order of authors, and why has not the same author the same relative place in the different lists and synonyms ? One while Donovan, Da Costa, Pennant, Martini, and other modern conchologists, stand at the head of the references, another while at the end ; and again in other places they are separated from each other by some of the *fathers and grandfathers* of the science. If the Doctor thought it a compliment due to the English writers to place their names foremost, in the description of English species, he might at least have established a correct and consistent succession among the others. We quote the description of *Cypræa Pediculus* as an instance of this unpardonable disorder.

“ *C. Pediculus.* Shell with numerous transverse furrows, some of them forked.

“ *Donovan's British Shells, tab. 43. (1799.)*

“ *Da Costa, Brit. Conch. tab. 2. fig. 66. (1778.)*

“ *Penn. Brit. Zool. 4. tab. 70. fig. 82. (1776.)*

“ *Borlase, Cornwall, p. 277. tab. 28. fig. 12. 13. (1758.)*

“ *Lister, An. Angl. tab. 3. fig. 17. (1678.)*

“ *Lister, Conch. tab. 706. 707. (1770.)*

“ *Argenv. Conch. tab. 18. (1757.)*

“ *L. Zoom. tab. 3. I. K.*

“ *Rumph. Mus. tab. 39. P. (1739.)*

“ *Giralt, tab. 14. O. P. 15. P. R. (1742.)*

“ *Seba Mus. 3. tab. 55. fig. 22. (1765.)*

“ *Mus. Gottwald, tab. 5. fig. 21.*

“ *Knorr Vergn. 6. tab. 17. fig. 6. (1773.)*

“ *Martini Conch. 1. tab. 29. fig. 306. 311. (1769.)*”

With respect to fidelity of translation it is less exceptionable than might have been expected ; and on the whole we consider it creditable to the author. We wish, however, for the sake of readers unacquainted with the Latin language, (and for these principally the work must have been intended,) that the terms had been more completely *anglicized*, wherever they admitted of it. For example, instead of “ *tail annulate*,” why might not *cauda annulata* have been rendered *tail ring-shaped* ?



instead of "*horns carinate*," why not *horns keeled*? instead of "*thorax*," why not *chest*? and so on. In many places, the original language of Linnæus might as well have been left, as a set of *mongrel* words are substituted for it, which are not more familiar. For example, in the following passage, would not a person unacquainted with Latin stand almost in need of another interpreter? "*Shell cinereous, immaculate glabrous, with four convex whorls, the first ventricose, the lip repand.*" There are native expressions, in ordinary use, which are respectively synonymous with every one of those above crabbed derivatives, and which the author ought certainly to have employed in preference to the latter.

As the present article comprehends only the first part of Dr. Turton's work, or the Animal Kingdom, we cannot, of course, yet deliver any opinion on the *general* merits of his labours; and we shall therefore take leave of him for the present, with expressing our hopes that, when the two other parts shall have made their appearance, there will be much less ground for censure, and more for encomium, than we have found hitherto.

ART. III. GULIELMI HEBERDEN *Commentarii de Morborum Historia et Curatione.*

(Concluded from page 362.)

WE must confess that we were much disappointed at the brevity of the Commentary on *Hydrocephalus*, a disease too frequent in its occurrence not to have engaged much of the author's attention, and too remarkable in its symptoms not to admit of much more elucidation than it has yet attained. The observations relative to its cure are comprehended in a single sentence, which states simply that no other remedies had been tried by the Doctor except cathartics and exulcerations, and even these with little advantage. Our disappointment was not less when we found five lines forming the whole of the chapter "*De Hydrophobia*;" but it was exchanged for surprise only, when we collected that no case of that disease proceeding from the bite of a rabid animal had fallen under the author's notice.

The following are the opinions laid down respecting the treatment of scirrhus and cancer of the breast, viz.

"Scirrhus,



“ Scirrhus, seu tuberculum durum, utcumque minutum, non sine metu in mamma percipitur: nunquam enim novi carcinoma, quod non ab hoc inceperit. Tamen contigit aliquando scirrhus, sine carcinomate subsequente, maxime ubi nullus fuerit dolor, aut tumor, aut distillatio e papilla. Sæpe enim tuberculum casu deprehensum est, et forsitan diu latuerat in mamma, quæ cæteroquin prorsus sana erat. Quamdiu scirrhus neque dolet, neque augetur, præstat abstinere ab omnibus extrinsecus remediis; neque juvabit calore præter consuetudinem mammam fovere. Medicamenta quoque intus data supervacua sunt; sed a victu salubri et moderato unicum præsidium petendum est. Tumor mammæ scirrhosus interdum ultro subsidit; quod plus semel vidi. In quadam muliere ea erat scirrhi conditio, ut futuri carcinomatis metum incuteret; itaque re probe perpensa præstabilius visum est eum excidere: nescio quo casu interveniente, mora aliqua facta est, et tumor aliquantum minui et mollescere cœpit; neque profecto cessavit, donec penitus consumtus est. Perpaucis vero contigit esse tam felicibus; quanquam scirrhus mammæ in multos annos non raro tumore ac dolore vacet, maxime ubi natus est ante ætatis annum trigesimum. Circa annum quadragesimum, aut serius, tubercula dura frequentissime oriuntur in mamminis, et plerumque non sine periculo. Memini tamen glandulam mammæ in septuagenaria induruisse in scirrhum, qui neque dolebat, neque ullo modo molestus erat, nec videbatur quicquam habere commune cum morbo, qui finem vitæ attulit. Binos curavi viros in quorum mammis scirrhus factus est, prorsus similis illius, quem inter mulieres quotidie videmus. Alteri horum mamma fieri cœpit carcinomata, et prospere abscissa est.

“ Cum tumor hujus partis durus cœperit pungentibus doloribus urgeri, et crescere (quo quidem statu multos annos permanere potest priusquam exulceretur,) medicamenta et extrinsecus, et intus, multa adhibita sunt, ut malum cohiberent, et tandem solverent. Verum in his omnibus, meo iudicio, parum aut nihil opis fuit, vel ad dolorem leniendum, vel ad solvendum tumorem. Tamen in una, atque altera, succus cicutæ aliquid profecisse existimatus est. Quod si concedamus cicutam his ægris interdum profuisse; at procul dubio spem medicorum toties fefellit, ut nequaquam operæ pretium fuerit in ejus usu diu persistere, et sinere ut multum pretiosissimi istius temporis frustra abeat, postquam tumor spectaverit ad exulcerationem. Hoc enim est tempus opportunissimum ad excidendum tuberculum adhuc modicum, quod  
proinde



proinde fiet sine multo dolore, et cum magna spē vulnus facile sanandi; præsertim ubi, mamma nondum graviter affecta, valetudo corporis vix, aut ne vix, læsa fuerit. Ubi morbus est sanabilis, nisi me omnia fallunt, hoc erit præsentissimum auxilium. Quod si malum intra mammam sese non continuerit, verum totus corporis habitus affectus sit, haud tamen crediderim morbum vel citius, vel certius, vel majore cum dolore in mortem desitutum esse, propterea quod hoc remedium, quod unum supererat, tentatum fuerit.

“ Sin ægrotæ timiditas non sinit scirrhum tempestive excidi; vel si ob moram factam in experiendis remediis magni nominis, et nullarum virium, morbus spatium habuerit ad occupandam mammam universam, cum exulceratione, et doloribus mammæ ipsius, tum reliqui corporis; si febris hectica sit, macies, fastidium, debilitas; ad quod malorum fastigium modo paucis annis, modo intra paucos menses pervenitur; sic ægrotantem salus ipsa, si cuperet, servare vix posset. In re tamen tam deplorata non est prorsus desperandum, modo scirrhi axillam non adeo occupaverint, ut excidi non possint: tempus admovendi scalpelli tantum non præterit: nam ex his periculis ægram ad chirurgi auxilium prospere confugisse novi. Non dissimulandum est scalpellum tam sero invocatum plerumque esse supervacuum; cum sæpe vulnus vel nunquam consanescat, vel postquam consanuerit, novi scirrhi nascentur. Nihilominus dolor abscindendæ mammæ pensabitur emolumento, quod et ipsa, et assistentes capient, sublata tam putri carne.

“ Ubi carcinoma altas egerit radices in axilla, totumque brachium, impedito lymphæ cursu, intumuerit, cum cibi fastidio, macie, debilitate, spirandi difficultate, et aliis instantis mortis signis, nihil tunc moliri potest medicus, nisi ut remediis opiatibus leniatur dolor, somnusque inducatur, et ulcus purum servetur. Ad hoc utile erit sæpe quotidie ulcus abluere aqua aëre, qui fixus vocatur, plena, vel imponere cataplasma ex radicibus dauci hortensis, eodem aëre refertis. Notatu dignum est gradum doloris in diversis ægris esse admodum diversum: in aliis gravissimus videtur; in aliis levis, atque nullius momenti.”

We shall extract some of the author's remarks on the treatment of uterine hæmorrhage, which, however, we do not consider so important in their relation solely to that disease, as on account of the ideas they convey respecting the supposed *astringent* power of certain medicines.

“ Cortex



“Cortex Peruvianus præcipuum locum obtinuit inter remedia, quæ contra hos affectus prosunt; item alumen, et gallæ quercus, aut cortex ejusdem, modo cum cortice Peruviano, modo sine illo, dantur. Si profecto id persuasum haberem, famam horum medicamentorum ab usu natam esse; nihil morarer, quicquid ratio, utcunque speciosa, contra ostenderet: verum si ideo nobis commendata fuerint, quia sensuum judicio habent facultatem astringendi; jure potest dubitari an ex ista facultate sperandum sit sanguinem cohiberi posse, cum ad ipsum locum pertingere nequeunt, donec multorum humorum copia mista fuerint ac diluta. At qualis demum illis restabit astringendi vis? cum medicamenta ipsa, contrita atque imposita super vulnusculum ab hirudine factum, sanguinis cursum sistere vix valent. Crediderim parum auxilii esse in sanguinis missione, ob rationes alio loco allatas. Scrupulus aluminis sæpe tuto datus fuit quotidie: memini tamen me vidisse quinquagenariam, cujus venter, et naturalia, ut audiui, admodum intumuerant, adeo ut vagina fere clauderetur; idque, ut ipsa suspicabatur, propterea quod ad sanguinem uterinum cohibendum semiscrupulus aluminis quotidie sumtus fuerat: verius forsitan ad adversam suam et conquassatam valetudinem, quam ad alumen, tumor esset referendus.”

Dr. H. admits the efficacy of cerussa acetata in cases of *menorrhagia*, but thinks the exhibition of it attended with so much danger, on account of having himself seen it produce the *colica pictonum*, that he enjoins practitioners never to have recourse to it. With great deference to so high an authority, we are inclined to doubt the propriety of an unqualified prohibition of this medicine, which certainly does not, under *all* circumstances, prove a poison; in fact, when combined with opium, and prevented from lodging in the bowels, by a judicious interposition of cathartics, it is rarely found, we believe, to produce any inconvenience whatever. As the styptic properties of cerussa acetata are confessedly powerful and speedy in their operation, we should be sorry to see it peremptorily expunged from the list of materia medica, especially as the cases to which it is suited have so often a fatal tendency, and so often resist the action of other remedies.

The following observations relative to the cure of *ophthalmia* involve points of much practical importance. It will be seen that the author was sceptical in regard to the efficacy of instillations of tinctura opii, and yet, in a preceding chapter, (from which we have just given extracts,) he speaks of opium not  
being



being destitute of advantage, when applied only to the integuments of the abdomen in cases of painful menstruation.

“ Imbecilis, et aqua suffusis oculis sæpe auxilio sunt aquæ quæ purgandi vim habent quarto quoque mane epotæ, et eodem tempore aquæ in qua cortex Peruvianus decoctus est uncia duæ bis quotidie sumtæ. Multa collyria dicuntur prodesse adversus imbecilitatem et dolores oculorum, quæ habent zincum vitriolatum, vel calcinatum, aut tutiam, aut cerussam acetatam, aut denique spiritum vini lacte et aqua mistum. Quæ omnia, ut interdum profuerint, multo sæpius ægrum frustrantur.

“ Inflammationes palpebrarum strumosæ, ubi oculus ipse vix læditur, sanguinis missionem haud postulant; quod si oculi ipsi inflammentur, maximum præsidium est in crebra sanguinis detractio, quæ convenientissime fit per hirudines temporibus, vel post aures, admotas septimo vel etiam quarto quoque die quamdiu inflammatio maneat.

“ Cataplasmata e conserva rosarum, vel pomis coctis, vel interiore parte panis lacte subacta, tenui linteo inclusa, et super oculos singulis noctibus imposita, mihi visa sunt plus profecisse ad discutiendam inflammationem, quam quælibet collyria. Ubi inflammatio postulaverit, cataplasmata octava quaque hora admoveri debent. Cortex Peruvianus, et aquæ purgantes, valent adversus hos, et omnes alios dolores oculorum. Ubi palpebræ inhærescunt, singulis noctibus oportebit margines earum inungere adipe suillo aqua emollito, ne mane glutinentur, et vi quadam diducendæ sint, unde dolor et inflammatio intenduntur. Sætacea, fonticuli, et vesicatoria, sæpe non contemnendam opem præbent ad hos morbos summovendos, et ad præcavendum ne repetant.

“ Adversus guttam serenam omnigena nervorum remedia, pulveres sternutamenta moventes, exulcerationes, emplastra cantharidis, et argentum vivum datum sic ut salivam excitet, nihil omnino profecerunt. Aiunt electrificationem interdum fuisse utilem.

“ Ad cataractam unicum remedium est humorem crystallinum vel deprimere, vel extrahere.

“ Veteres medici ocularii, ut ex Celso discimus, collyriis suis fere semper admiscuerunt lacrymam papaveris. Quod si perpendamus opii potestates, quæ sensibus patent, tum vires medicas, quas usu cognitæ habemus, vix præsidii aliquid ex opio adversus morbos oculorum licet sperare. Acor hujus succi manifestus dolori parum convenit; et vis ejus anodyna,  
nisi



nisi intus, et in visceribus, meo iudicio nulla est. Quid quod antiquorum autoritas haud potuit impedire ne collyria opiata jamdiu exoleverint? quod non leve est argumentum contra eorum utilitatem. Usu tamen recenti aiunt fuisse compertum, tincturæ opii guttas tres oculis quotidie instillatas contra obstinatas inflammationes multum profuisse."

A curious case of *nyctalopia* occurs in p. 282.

"Vir natus triginta annos verno tempore implicitus est febre intermittente, quæ diu traxit, propterea quod satis corticis Peruviani non sumserat. Itaque in frigidam bis descendit, et ex illo febris nunquam repetiit. Triduo post ultimam accessionem, dum in navi quæ in portu erat occuparetur, circa solis occasum res omnes cœperunt colore infici cœruleo, qui sensim increvit in speciem nubis, et brevi postea oculi adeo caligabant, ut candelæ lucem cernere vix posset. Crastino mane acies oculorum restituta est. Cum vero advesperasceret, lumen simili modo amissum est: et eodem ordine perrexit amitti, et recipi, duodecim dies. Dein navem reliquit, et *nyctalopia* paulatim minuta est, et intra triduum cessavit. Post mensem cum jam aliam navem conscendisset, quarta nocte eadem cæcitæ occupatus est, quæ perseveravit novem noctes, scilicet quamdiu in navi mansit. Egressus iterum convaluit. Non ita diu post in tertiam navem intravit, ubi restitit decem dies, et bis tantummodo morbo laboravit; quo nunquam postea tentatus est. Idem vir bis inciderat in resolutionem manuum a plumbi tractatione ortam."

In the chapter "*De Paralyti et Apoplexia*" much interesting matter occurs, which we would have presented to our readers, had it not been diffused through too great a number of pages. A larger assemblage of valuable practical facts were, perhaps, never exhibited in any description of those afflicting and frequent diseases. The remarks relative to cure are no less important than those connected simply with semiology, and, being somewhat more compressed, admit more easily of insertion here.

"Credibile est plerosque paralyticos et attonitos, corporis ipsius viribus, in aliquam partem sanitatis restitutum iri: unde oritur haud mediocris difficultas æstimandi veros effectus qualiumcunque remediorum, quibus ægrotus usus sit; donec ea crebro repetita eundem semper exitum habuerint. Invadente apoplexia aut paralyti, continuo laxare oportet omnes istas vestium partes, quæ collum cingunt; id enim nonnunquam his morbis advenientibus adeo tumet, ut ab arctiore quovis vinculo strangulationis periculum instaret.



“Sanguinis missio vulgo existimatur esse præsentissimum attonitorum auxilium; et profecto ubi æger florente sit ætate, et sanguine abundet, et lautioribus epulis assuetus fuerit, vena sine mora est incidenda. Veruntamen largæ et repetitæ sanguinis detractioes omnibus apoplecticis et paralyticis, nullo delectu habito, utiliter aut tuto adhiberi certe non possunt. Etenim juniores, et robusti, non tam obnoxii sunt his morbis, quam pueri infirmi, et effœti senes, in quibus vires nutriendæ sunt, et excitandæ, potius quam minuendæ; dum multa sanguinis profusio, quemadmodum in submersis fieri dicitur, omnes naturæ conatus reprimat, et tenues vitæ reliquias penitus extinguit. Quod si consulamus experientiam, hæc, quantum possum judicare, testatur copiosas sanguinis missiones sæpe nocuisse, easque in non paucis ægrotis tutius fuisse prætermisas.

“Nonnullis persuasum est apoplexias omnes initium habere a nimio sanguine, qui venis et arteriis distentis, vel ruptis, cerebrum comprimit; neque aliam quamlibet hujus morbi causam admittunt. Attamen huic opinioni parum favet infirma, ac perdita valetudo plerorumque in quos affectus apoplectici incidunt. Tum quoque multa venena nervorum vires perturbant, aut abolent, eodem prorsus modo ac apoplexia; quorum tamen effectus a sanguine cerebrum comprimente proficisci vix possunt. Potest quidem apoplexia interdum fieri ex arteria aut vena in cerebro rupta; verum non video qui fieri possit ut homo ex isto casu non moriatur; et tamen novimus perpaucas apoplexias illico fuisse mortiferas.

“Si nonnullos audiamus, febris haud mediocriter prodest paralyticis, quam igitur vel gaudent invenire, vel student excitare. Huic certe doctrinæ parum convenit cum illorum placitis, qui omnem horum morborum curationem in purgatione alvi, et sanguinis missione contineri opinantur. Sed, ut verum fatear, jam diu est quod usus mihi ex animo delevit hanc opinionem de febris utilitate; neque enim hic, nec alibi usquam, febris utilis visa est. Quo magis ægrotus febricitat, eo semper gravius est malum, cujuscunque id generis sit, sive extrinsecus, seu intus in corpore latens: et quo magis naturaliter ordinatur arteriarum motus, eo res erunt meliores.

“Arthritis paralysi superveniens ne minimum adjuvit, sed misere delusit spem ægrotorum, qui nescio quid magnum ex ejus adventu sibi polliciti fuerant. Nemini autem mirum videri debet arthritidem, quæ sæpe gignit apoplectica mala, eundem remedium non esse.

“In



“ In nulla hujus morbi specie vomitum elicere oportet per vehementius medicamentum quam aquam ex carduo benedicto; atque hæc tum solum expedit, cum nausea ægrum fatiget: tunc enim ejus beneficio nausea discutietur, et quicquid ventriculum gravabat, summovebitur. Medicamentum leniter purgans, vel, ubi hoc devorari non potest, aliquid infusum in alvum proderit intestina exinaniendo, pariterque excitando. Medicamenta autem valentiora sunt aliena. Emplastra cantharidis super caput, scapulas, artusque resolutos, imponenda sunt.

“ Ubi facultas devorandi restituta fuit, vel nunquam amissa, opitulantur illa remedia, quæ vires languenti corpori reddant, quale est quod recipit olei cinnamomi, vel caryophyllorum, guttam unam cum tantillo sacchari tritam, decocti vel infusi corticis Peruviani sequiunciam, spiritus lavendulæ compositi drachmam, quod etiam dandum est quarta quaque hora. Moschus quoque, et radix valerianæ sylvestris, et camphora laudantur, tanquam quæ proprie nervis amica sunt, quorum motus languidos excitant, et inordinatos moderantur. Radix valerianæ sæpe data est sine quovis evidente effectum; cognovi tamen nonnullos, quorum animos semper redidit mire agitados; ut clare pateret eam nequaquam esse fatuam, et omni potestate destitutam. Præterea feles odore ejus admodum delectantur, et tandem quasi mente motæ in ludos abnormes aguntur. Feles autem promptissime sentiunt vim earum rerum quæ nervos vehementer movent; et nescio an sit ullum animal paris magnitudinis, in quod tantos effectus edunt venenatæ barbararum gentium sagittæ, nicotiana, opium, spiritus vini, et cætera hujus generis venena.

“ Postquam impetus morbi transierit, et æger haud amplius in aperto periculo versetur, opera danda est ut reliquæ ejus dissipentur, et æger a nova accessione securus præstetur. Quem ad finem quidam putant plurimum conferre aquas Bathonicas. Medici autem de hac re inter se dissentiunt: cum enim usus harum aquarum aliis videtur esse præsens paralyticorum præsidium; alii sine ulla dubitatione declarant eo ipso modo homines ex paralyticis fieri apoplecticos. Quantum egomet usu didici, Bathonia quidem his ægrotis neque prodest, neque nocet. Alii dum illic vivunt paulatim recreantur; alii nova accessione correpti pereunt: prorsus uti factum fuisset quovis alio loco. Quamobrem nequeo suadere iter ad Bathoniam; quod si illud ab ægris ipsis, vel ab eorum propinquis expetatur, per me licet eant. Lavatio frigida vix ampliorem commendationem meretur. Novi bene multos qui ex paralyti



emergentes sperarunt se inventuros esse remedium ad vertiginem, et debilitatem, atque alia mala ex hac valetudine orta, si in mare descenderent. Et quidam, ut ipsis videbatur, levati sunt: aliorum valetudo in pejus ruens frigida imputata est. Verior forsitan sententia esset, hanc neque nocuisse, nec multum profuisse. Medici igitur, qui in reprehensionis periculum incurrere nolunt, cavebunt a suadenda lavatione frigida, cum paralytici, quicquid fecerint, tam obnoxii sunt morbo recidivo. Quod si vel inter lavandum, vel brevi postea fiat nova accessio, in illam causam, utcumque immerito, omnis culpa conferetur.

“Somnus est imprimis necessarius ad renovandas vires animosque, labore et curis exhaustas; et tamen procul dubio hominem opportuniorem reddit omnibus illis affectibus, qui ex nervorum infirmitate oriri existimantur; in quibus quoque numeranda est apoplexia, quæ sæpe per quietem crescit, vel tum primum invadit. Illos itaque omnes qui in his morbis sunt, et cupiunt amoliri præsentia mala, vel futura præcavere, oportet abstinere a nimio somno: optimus ejus modus erit, qui minimus salva valetudine capi potest.

“Exulceratione ex emplastris sanata, foniculus in collo fieri, et per reliquam vitam servari debet. Vertigo levabitur missis sanguinis sex unciiis per cucurbitulas alternis mensibus scapulis admotas; quæ sanguinis detractio bene fertur ab illis, qui venam incidi non sustinent. Sæpe salutare fuit hoc remedium; tum præcipue in foemina nata octo et sexaginta annos, quam vertigo adeo gravis identidem arripuerat, ut illico concideret, et in summo apoplexiæ periculo versaretur. Hoc demum vitæ anno coepit uti cucurbitulis, quæ deinde admovebantur singulis sesquimensibus usque ad annum quintum et octogesimum, quo decessit. Nunquam autem illi opus fuit monitore: etenim si forte paucos dies dilatum esset hoc remedium, apertissime sentiebat se minus recte valere, atque ejus desiderium diutius ferre sine periculo non posse. Hujus beneficio per septendecim postremos vitæ annos vertigo non nisi raro et leviter reversa est. Finem autem vitæ attulit paralysis, a qua, ut mihi videbatur, cucurbitulæ eam multos annos securam præstiterant.

“Cum juvenis adhuc essem, et medicinam ex libris præcipue hausissem, abhorrebam ab opio paralyticis dando. Doctrina enim, veri certe speciem præ se ferens, in medicorum scholis tradita, rejicit opium tanquam prorsus alienum, ubi languentes et semimortuos nervos cupimus excitare: quippe ejus vis omnis cernitur in refrænando et consopiendo vires animales.



animales. Hanc tamen opinionem, utcunque speciosam, usus mihi ex animo excussit. Cognovi enim ægros, qui a paralyti convalescentes multum opii sumserant, et deinde sibi indulserant tincturæ opii guttas triginta singulis noctibus per haud paucos annos. Hi interea bene valuerunt; et si opium præsidio non fuit, at certe non obfuit sanitati. His doctus exemplis, ubi jactatio postulaverit, paralyticis sæpe dedi opiata, cum non minore fructu, quam in alia quavis ægritudine.

“Quantum valeat electricitas ad paralytin sanandam, nondum usus satis compertum habeo: hæc tamen procul dubio aliquam vim in nervos exercet.

“Inter febris intermittentis signa semel atque iterum vidi mala quædam paralytica; verum hæc omnia, simul cum febre, cortici Peruviano cesserunt.”

Our analysis of these Commentaries has considerably exceeded the space usually allotted to works of equal bulk; it rarely happens, however, that we have to notice one of equal importance, on which account we trust our readers will not charge us with having trespassed unprofitably or unnecessarily on their patience. Several of the most interesting and instructive chapters we have not even adverted to; but such, the substance of which had been before presented to the public, we should not, perhaps, be so readily excused for detailing. Of this description are the chapters on *Hectic Fever*, *Measles*, and *Angina Pectoris*, containing (as well as those on the subject of *Small-pox*, *Scrofula*, &c.) a fund of excellent matter, stated with great clearness and precision, which the theorist will do well to consult, and which is of inestimable value to the practical physician.

We shall take our leave of this venerable author, in extracting the following remarks on the cause of *phthisis pulmonalis*; remarks which appear to us to be as just and sagacious as they are consoling to those who labour under a disease commonly considered *incurable*.

“Varia remedia strumosorum malorum nobis a majoribus tradita fuerunt, quæ omnia usus adeo parum comprobavit, ut verear ne adhuc desideretur medicamentum, quod tumores pulmonis vel nascentes discutiat, vel sanet suppuratos, vel impediat quo minus novi subnascentur. Quamobrem in hoc morbo, sicut in aliis omnibus, quorum certa remedia nondum inventa sunt, æger contentus esse debet iis præceptis, quæ docent, qualis vitæ victusque ratio fugienda sit, qualisque eligenda, ut totius corporis valetudini quam optime consulatur. Quippe his rite institutis, vis illa



sui conservatrix omnibus animantibus innata maxime vigeat, et pulmōi laboranti felicissime subveniet. Neque debet quisquam desperare de bono hujus curationis exitu. Mammæ mulierum, perinde ac pulmo, glandulis plenz sunt, neque scio an facilius sanentur, ubi induruerint in tubercula scirrhusa; attamen hæc, nihil non mali minitantiā, vidi, dolore sensim mitigato, tandem conquiescere, aut etiam penitus discuti; et per vires corporis naturales, victumque salutarem morbus vel funditus sublatus fuit, vel omni facultate nocendi spoliatus. Idem obtinere posse in pulmōis quoque tuberculis scirrhusis veri haudquaquam dissimile est. Etenim nonnulli juvenes neque pauca, nec levia phthiseos indicia experti, restituti fuerunt, et ad senectutem incolumes pervenerunt. Quidam adolescens sedecim annos natus per multos menses conflictatus est cum phthisi pulmōis; et cum jam ad ultima, ut videbatur, ventum esset, magna copia puris erumpente fere suffocatus est; sed post paucos dies excreata tunica unde id effluerat, vires et corpus brevi recollegit, athleticeque valuit, et robustus senex factus est, auctus multis liberis et nepotibus bene valentibus. Attamen levi quacunque de causa tussi opportunus erat, et sæpiuscule quotannis cruenti aliquid exscreavit. Summus etiam ille medicus Edwardus Wilmot, cum nondum vigesimum complevisset annum, tabe adeo graviter ægrotabat, ut, quod ipse mihi narravit, non solum propinqui, sed etiam expertissimi medici de salute ejus desperarent; vixit tamen, vixitque nonagesimum annum egressus. Quotidianum est ut mala phthisica leniantur, vel conquiescant, per totam æstatem, vel etiam per paucos annos; et deinde frigore sæviēte, aut temperantiæ legibus parum servatis, revertantur, et brevi hominem necent. Quod si hæc irritamenta sollicite fuissent vitata, non video cur morbus per totam vitam non siluisset. Quam rem non mediocriter confirmat historia cujusdam tabe hæreditaria occupati; qui in regionem tepidiorem profectus convaleuit, et viginti annos sanus vixit, neque scio an morbus unquam redierit.

“ Optime provisum est, ut quæ partes corporis ad vitam necessariæ, vel summopere utiles sunt, ex modo valde amplæ factæ sint, modo duplices, ita ut si ex his una, vel pars aliqua, casu morbove lædatur, supersit tamen quantum ad usus nostros non male suppeditet. Hujus providi benevolique consilii exemplum habemus in pulmone: qui cum in partes duas fere æquales dividatur, altera extenuari, et fere in nihilum redigi potest, altera simul haud mediocriter labefactari; ut patuit in his tabidorum cadaveribus, et factum fuisse credibile est aliquamdiu



aliquamdiu priusquam morerentur. Multi quoque tussunt, et vehementer spirant, et subinde cruorem exspuunt, per totam ætatem, qui non solum vivunt, sed etiam vita fruuntur. Unde credibile fit vitam posse constare, atque etiam valetudinem non magnopere perturbari, licet bona pars pulmonis aut inutilis facta fuerit, aut perierit. Itaque postquam tubercula strumosa pulmonem vitiaverint, partesque nonnullas cum aliis conglutinauerint, quasdam etiam penitus absumserint; homo tamen vivere, et non incommode valere posset, modo daretur remedium, quod morbum intra certos fines contineret. Phthisis, quæ ex labe Venerea orta est, sæpe gravissimas noxas intulit, et vitam in propinquum discrimen adduxit; adhibitio tamen proprio istius veneni remedio, æger præter omnium spem convaluit, quanquam pulmo omnia tulerit signa vitii non levioris, quam quod factum est in deplorata tabe strumosa. Posteris utinam ad virus strumosum æque certum remedium aut det ratio, aut fors objiciat. Interea multa sunt, quæ tabidum de salute desperare vetant; modo victus ratio bene constituatur, et sollicite vitentur quæcunque aut vires corpori demant, aut morbo addant.

“ Frigus asperum, et venti brumales, valentissimos pulmones tentant, et tusses movent; ideoque summo opere vitanda sunt ab iis, quorum pulmones sunt infirmiores. Nonnihil juvabit amictus tepidior, qualis est vestis interior lanea; utilissimum autem, si fieri potest, ex frigido in mitius cœlum transire. Tabido præter omnia loca convenerit insula haud magna, in qua montes nulli excelsi sunt, quæ etiam procul remota est a montibus nivalibus aliarum terrarum, et cujus denique ea est temperies, ut mercurius in thermometro Fahrenheitano raro excedat gradum nonagesimum, aut infra sexagesimum descendat. Per quatuor æstivos menses is est Britannici cœli tepor, ut tabidus frustra quæreret aliud sibi convenientius. Itaque nemo Britannus e pulmone laborans solum vertere debet a mense Martio usque ad Octobrem; per reliquos menses ire juvabit in locum, qualis modo propositus fuit. Exercitationis genus illud eligendum est, quod ipsi ægro maximam ferat delectationem, et lassitudinem minimam.

“ Tabidum oportet imprimis abstinere a vino quocunque, et ab omni potione meraciore, item, quantum commode fieri potest, carnem cibo subtrahere; cum vero nonnullis odiosa sint quæ e terra gignuntur, aliquid concedendum est sive consuetudini, sive naturæ, ne forte si caro ex toto sublata sit, vires ægroti magis minuantur, quam ipse morbus. Quamvis enim cibi cupiditati non semper indulgendum sit; tamen

ægotantium



ægotantium vota non sunt nimis severe rejicienda, aut prorsus negligenda. Potui aptissima erit aqua pura, qualem præbent fontes montis Malvernensis, vel distillata. Quæ vero copiam magnam habet calcis, et acidorum mineralium, veneno pejus est vitanda; cum hujusmodi aqua, ut mihi videtur, corpori præcipue inimica est, glandulas lymphaticas impediendo, et exulcerando, etiam in adultis, et qui ab omni labe strumosa liberi sunt. Porro hæc vitia, nisi fallor, vidi aquæ purioris usu discuti.

“ Navigatio longa a quibusdam, quos curabam, tentata fuit, et, ut ipsis videbatur, non sine morbi levatione: tamen aliis certe parum profuit. Tuta quidem semper est; neque ausim majus quicquam ex illa polliceri. Nonnulli, qui sanguinem quotidie exscreabant, in navi fuerunt sesquimenssem, et licet nausea summa fuisset, et vomitus tota via nunquam cessasset, tamen sputa cruenta non aucta sunt.

“ Sensus nescio quis in faucibus, tussim assidue movens, interdum est admodum molestus; et varia remedia excogitata fuerunt ad hoc importunum malum deliniendum; sicut uvæ passæ comestæ, et lente devoratæ; vel aqua ex glycyrrhiza; vel humor ejus decoctus; vel succus sambuci, aut ribesiorum spissatus; vel aqua in qua semen cydonii decoctum est, cum syrupo aliquo jucundo mista; vel mel cum succo limonis; vel sacchari frustum tinctura opii camphorata madefactum: plurima alia ejusdem generis sunt: quibus omnibus parce utendum est, cum breve quidem præbeant auxilium, sed nihil conferant ad morbi sanationem; et quanquam gustui jucunda, ventriculo tamen parum utilia sunt.”

#### ART. IV. *MURRAY'S Elements of Chemistry.*

(Concluded from page 296.)

**A**FTER having fully considered the effects of caloric, Mr. Murray proceeds to notice the effects of light and the electric fluid, which are chemical agents, analogous in several respects to caloric. In this part, though we meet with nothing new, which, indeed, in a work of this nature we have not, perhaps, a right to expect, yet no fact of any consequence is omitted, and his arrangement is clear and intelligible. Under the head of Electricity he takes the opportunity of presenting his readers with what is known on the subject of galvanism. This finishes the first part of the work. In the second our author proceeds



to treat of the simple substances and their binary compounds. In this investigation he follows the division of bodies into simple and compound, which is the one best adapted to the nature of science.

The number of simple substances, whose materiality and distinct existence have been established, and whose chemical characters can be fixed with tolerable certainty, amounts to about forty. These the author arranges under the following heads: 1st, Simple substances naturally existing in a gaseous form, comprehending oxygen, hydrogen, and azot; 2dly, Simple inflammable substances, comprehending carbon, sulphur, and phosphorus; 3dly, The metals; and 4thly, The earths.

“ The substances comprised under the first order, the simple gases, are the most important of the chemical agents, as they enter as constituent principles into by far the greater number of the productions of nature. They, therefore, properly occupy the first place in any ch<sup>em</sup>ical arrangement.

“ After they have been described, it will be convenient to consider the combinations into which they enter with each other, and the products to which these give rise, before proceeding to the enumeration of the other simple substances. Under the combination of hydrogen and azot, the class of chemical agents termed alkalis may first be considered, as we thus obtain the greatest advantages of arrangement, these substances combining with many of the remaining simple bodies and their binary compounds, and forming important compounds. The general phenomena attending the combinations of oxygen, and the generic characters of the products of oxygenation, may next be noticed, and then the peculiar combinations of oxygen with the other two simple gases may be considered.

“ We next proceed to the second order, the simple inflammables, noticing their properties, their combinations with the simple gases, with each other, and with the several compounds which have already been described, and likewise the properties of the new compounds which result from these combinations. After the same manner the remaining orders of metals and earths may be considered.

“ There remains an extensive class of compounds, those which are the products of organization; in other words, the vegetable and animal products. These are with propriety reserved for separate consideration, as they possess chemical



characters by which they are clearly distinguished from the preceding compounds.

“ Under these divisions may be arranged every substance, either existing in nature or produced by art, which it belongs to chemistry to consider.”

In speaking of the combinations of oxygen in general, the author is naturally led to the subject of combustion, which he considers at some length, and in a manner so very ingenious and clear, that we shall present our readers with an extract of this part.

“ The attractive power of oxygen towards other bodies is more extensive than that of any other chemical agent, and the history of its combinations forms the most important part of chemical science. These combinations are very generally attended with the emission of light and caloric; in other words, with the phenomena of combustion: it is, therefore, necessary to take a general view of this important process, before proceeding to the consideration of its particular products.

“ The phenomena of combustion, and the distinction of bodies into combustible or inflammable, and incombustible or unflammable, are sufficiently familiar; the latter, when exposed to heat, have their temperature raised, and that in proportion to the degree of heat applied to them; but whenever this communication of caloric, from an external source, is stopped, their temperature falls, and they return to their former state. Combustible bodies, on the contrary, when heated to a certain extent, begin to suffer a very evident change; they become much hotter than the surrounding bodies, emit light more or less copiously, and appear to be consumed, or rather are converted into substances altogether new, and which frequently are not apparent to the senses. It is this rapid emission of light and caloric, and this change of properties, and apparent loss of substances, which constitute the process of combustion.

“ Beccher advanced the first rational chemical hypothesis to account for these phenomena; he ascribed them to the motion of a peculiar principle, the inflammable earth, which he supposed all inflammable bodies to contain. Stahl, refining on this system, admitted with Beccher the existence of a common principle in inflammable bodies, to which he ascribed their inflammability; but this principle, which he termed phlogiston, he supposed not to be an earth, but fire, or the matter of heat and light. In combustion he supposed it to be  
disengaged,



disengaged, and hence explained the phenomena attending that process, and the change of properties in the bodies subjected to it. This hypothesis appearing to afford a satisfactory explanation of a number of chemical phenomena, was universally adopted, nor for a considerable period was any doubt entertained of its truth.

“ In framing this hypothesis, Stahl paid no attention to the influence of the air in combustion, which before his time had been demonstrated, and the nature of it in some degree ascertained, by the experiments of Mayow and Boyle. So far, therefore, it was defective, as it gave no explanation of the necessity of the presence of the air for the support of that process. It had further been ascertained, that some bodies, instead of losing, gain weight by combustion; a fact inexplicable on the Stahlian doctrine, since it supposed that in that process a principle was merely disengaged from the combustible body.

“ Various attempts were made to solve these difficulties, but with little success; and the discoveries which were soon after made of the nature and agency of the gases, pointed out still more clearly the deficiency of the original doctrine. It was observed, that combustion was more vivid in oxygen gas; and it was shewn by different chemists, that when it is carried on in atmospheric air, the weight and volume of the air are diminished to a certain extent, and it is no longer capable of supporting that process; changes which were likewise proved to be owing to the consumption of oxygen. These facts led to a new system. While the greater number of chemists laboured to reconcile them with the hypothetical ideas of Stahl, and for that purpose proposed many modifications of his doctrine, Lavoisier at once rejected it, denied the existence of phlogiston, and ascribed the phenomena of combustion to the combination of oxygen with the inflammable body. By this combination, the changes it suffers in properties and in weight, as well as the corresponding changes in the air, were accounted for: and as the doctrine of latent heat had been previously established, the evolution of caloric was thus also explained.

“ According to this doctrine, then, inflammables are merely substances, having an attraction to oxygen, and which, at a certain temperature, are disposed to combine with it: combustion is this combination; the product of that process is the compound which results from it; and the evolution of caloric



which accompanies it, is not from the inflammable body, but from the oxygen gas.

“ The first principle of this theory, that combustion is the combination of oxygen with the combustible body, is proved by the following general facts: 1st, Combustion cannot go on without the presence of oxygen; and is more rapid in proportion to the quantity of oxygen in contact with the inflammable body. 2dly, In every case of combustion, the oxygen present is consumed. 3dly, The increase of weight which every combustible body gains in burning, corresponds exactly to the weight of the quantity of oxygen gas which disappears: and 4thly, The quantity of oxygen absorbed by the combustible body, may always be recovered from the compound that has been formed, and its weight is equal to the weight of the quantity which had disappeared during the combustion. These facts have been established by the most accurate experiments; they are true without limitation or exception, and their force in establishing the conclusion that combustion is the combination of oxygen with combustible bodies, cannot be eluded but by the most extravagant and unfounded suppositions.

“ From this principle, respecting the nature of the process termed Combustion, it remains to explain the phenomena which attend it, the principal of which is the evolution of light and caloric.

“ By the older chemists it was universally supposed, that the caloric proceeded from the inflammable body; and this is indeed an opinion which must appear unquestionable, while the nature of combustion is not perfectly understood. The burning body appears luminous and feels intensely hot; and as no other agent appears to be concerned, the conclusion seems unavoidable, that it is from it that the light and heat are evolved. But when the nature of the influence of the air in combustion is understood, when it is proved that in that process oxygen combines with the combustible body, it is obvious that this conclusion no longer necessarily follows, since where two substances combine, if light and caloric are evolved, it is *a priori* equally probable that they may proceed from the one or from the other. Whether they proceed from the oxygen gas or the combustible body, they must be separated at the part where the combination takes place, that is, upon the surface of the burning matter itself; and consequently it will appear luminous and heated, while the gas being invisible escapes observation.



observation. When it is farther ascertained, that bodies in the aëriform state contain in equal weights, and at the same temperature, quantities of caloric much greater than solids or fluids do, the conclusion becomes probable, that the caloric evolved in combustion proceeds rather from the oxygen gas than from the combustible matter, since the former contains a much larger quantity of this power than the latter. This is accordingly the explanation that was first given in the modern system, of the origin of the caloric evolved in combustion. The greater number of combustible bodies exist in the solid or fluid state, and the compound formed by the combustion likewise generally exists in one of these forms; the caloric extricated was therefore supposed to be derived from the *condensation* of the oxygen gas in the new combination into which it enters.

“ Though approaching to the truth, this explanation is not strictly true. It is not merely from the oxygen gas being *condensed* that the caloric is evolved, because in many cases of combustion the product still exists in the gaseous form, and because the quantity of caloric evolved in different cases, bears no proportion to the degree of condensation. Dr. Crawford, considering this subject under a more extensive point of view, determined by numerous experiments, that the evolution of caloric which attends combustion, is owing to change of capacity. He found that the capacity of oxygen gas is much greater than the capacities of combustible bodies; he likewise ascertained that the capacity of the compound resulting from the combustion, is always much less than that of the oxygen gas, while it is almost invariably greater than the capacity of the combustible body, though still inferior to the mean of the capacities of the two; it is therefore evident, that caloric *must* be rendered sensible during combustion, and that it is from the oxygen gas that it must be evolved. In different bodies the difference in the proportion of the capacities before and after combustion is by no means uniform; and hence the difference in the quantities of caloric extricated in various cases of combination, a difference augmented by the variations in the degree of rapidity with which oxygen and the different combustible bodies combine.

“ Some chemists have given a different representation of this subject. They suppose that oxygen gas is a chemical compound of oxygen and caloric; that in combustion the oxygen is attracted by the inflammable body, and that by this superior affinity the caloric is disengaged. ‘ At a certain degree of temperature,’ says Lavoisier, ‘ oxygen possesses a  
‘ stronger



‘ stronger elective attraction or affinity for phosphorus, than  
‘ for caloric; and in consequence of this, phosphorus attracts  
‘ the base of oxygen gas from the caloric, which, being set  
‘ free, spreads itself over the surrounding bodies.’ He gives  
a similar explanation of every other case of combustion.

“ It is not difficult to determine which of these explanations, or rather which of these modes of expressing the same explanation, is preferable. Unless the experiments of Crawford, proving that a diminution of capacity takes place, when oxygen combines with inflammable bodies, are invalidated; or unless it is shewn, that the difference in the quantities of caloric contained in different bodies, which is expressed by saying that they have different capacities, is owing to that part of the caloric contained in each above that contained in the others, being chemically combined with it, it must be evident, that the language which supposes such a combination involves an hypothesis, and is consequently unphilosophical, while the other is strictly inferred from the phenomena; and, as Dr. Crawford remarks, it is equally adapted to explain them, whatever opinion may be held respecting the nature of caloric, or its mode of existence.

“ It remains to explain the origin of the light emitted during combustion. While it was believed that light and caloric were essentially the same, the same origin was necessarily assigned to both: in the ancient system they were supposed to proceed from the inflammable body; in the more modern theories they have been derived from the oxygen gas: but as this opinion, with regard to the identity of these two agents, is unfounded, it is still necessary to inquire whence the light is derived; for it is evident, that from the fact that the caloric is disengaged from the oxygen gas, we cannot infer, that the light must have the same origin.

“ Lavoisier, though he inclined to the opinion that light is a component part of oxygen gas, and that is from the decomposition of this gas that it appears during combustion, did not consider it as fully established. Fourcroy supposes it to be demonstrated by the following facts, which other chemists have likewise urged in support of the same opinion. ‘ Com-  
‘ bustible bodies afford much more flame when they burn in  
‘ oxygen gas alone than in atmospheric air: there are com-  
‘ bustible bodies which do not burn with flame except in  
‘ oxygen gas: to disengage the oxygen from bodies which  
‘ contain it, and convert it into oxygen gas, it is not sufficient  
‘ to dissolve it in a greater or less quantity of caloric, but it is  
‘ necessary



‘ necessary at the same time to add light: and lastly, there  
‘ are burnt bodies which lose their oxygen on the contact of  
‘ light alone.’

“ These facts prove nothing, and it is singular that they should have been considered as of any weight. With respect to the two first, it is obvious, as combustion is more rapid in oxygen gas than in atmospheric air, that, from whatever source the light may be derived, a greater quantity must be evolved in a given time: and with respect to the two last, it is equally evident that they are explained, as well by the supposition that light has an attraction to the base of the inflammable body, as to the base of the oxygen gas; nor are the facts themselves more in favour of the one supposition than of the other.

“ Although there is no decisive proof that light is a constituent principle of inflammable substances, there are various considerations which render it probable. It is frequently evolved in combinations of oxygen, where the oxygen is merely transferred from one inflammable substance to another: but in such cases it is highly probable that it must proceed from the inflammable body; since, even supposing it to be a component principle of oxygen gas, it must have been evolved in the combination of the oxygen with the body from which, in these cases, that principle is transferred. The oxydation of certain metals, by heating them with other oxyds, as with oxyd of mercury, and the deflagrations excited by the action of sulphuric, nitric, and oxygenated muriatic acids, upon inflammable bodies, afford examples of this kind. Other experiments have been made, apparently still more decisive, in which light was evolved, when the filings of different metals were heated with sulphur *in vacuo*, or under mercury, when of course no oxygen was present to afford it. These, indeed, have been objected to, on the supposition that water was present in the materials from which oxygen might be derived: but granting this supposition, which seems, however, not to be established, it does not invalidate the argument, that the light must have proceeded from the inflammable body; since, supposing light to exist in oxygen gas, still it must have been evolved in the combustion of hydrogen, by which water is formed, and of course could not exist in that water, or in either of its principles.

“ It seems probable, therefore, that the light extricated in combustion is derived from the inflammable substance; the oxygen combining with the bases of these substances, and disengaging the light by a superior affinity. It is possible that  
part



part of it may also be derived from the oxygen gas; but it is evidently unnecessary to *suppose* so, where the supposition is supported by no fact.

“ It may be concluded, then, that inflammable bodies are compounds, consisting of light united with unknown bases; but as we are unable to separate the light, so as to obtain these bodies pure, it is unnecessary to arrange these substances as compounds. This opinion was first maintained by Macquer, and has been revived by Gren. Some have affected to consider it as a modification of the doctrine of Stahl, light being substituted for phlogiston; but this is a mere verbal conceit, which could have originated only from prejudice in favour of that hypothesis.

“ Besides the simple case of the combination of oxygen with other bodies, which constitutes combustion, there are some others more complicated, in which, after being combined with one body, it is transferred to another.

“ *Deflagration* is a case of this kind. When a quantity of nitre, or nitrat of potash, is mixed with an inflammable body, and exposed to a red heat, a vivid combustion is immediately excited. This is termed deflagration. The general explanation of it is sufficiently evident. Nitre consists of potash and nitric acid, the latter being a compound of oxygen and azot. The nitre, therefore, contains a large quantity of oxygen, which exists in it in a state of combination so weak, that it is separated by exposure to heat; it is therefore easily transferred to the inflammable body, and hence the vivid combustion that is excited. Any other salt, containing the nitric or oxygenated muriatic acid, produces the same effect.

“ There is a difficulty in explaining the origin of the quantity of caloric rendered sensible during deflagration. The oxygen exists in the salts concerned in that process in a concrete state, and it can scarcely be supposed to contain, in such a state, that large quantity of caloric which it contains in the gaseous form. Whence then is the caloric which is extricated derived?

“ It must first be remarked, that the quantity of caloric rendered sensible during deflagration is proved, by the experiments of Lavoisier with the calorimeter, to be considerably less than that evolved from the consumption of the same quantity of oxygen by combustion. Still a large quantity is evolved. It has been ascertained, however, that when nitric acid is formed by the combination of oxygen and azot, each previously existing in the state of gas, much less caloric is  
disengaged



disengaged than in other combinations of oxygen : it is also known, that when this acid is combined with potash to form nitre, a very inconsiderable quantity of caloric is discharged. It is evident, therefore, that a very large quantity of the caloric contained originally in the oxygen gas remains in the nitre; and this will account for the quantity rendered sensible in deflagration.

“ It has been affirmed, that the capacity of nitre for caloric is not great, and that the united capacities of nitre and charcoal are inferior to the united capacities of the products of the deflagration of these substances. Were this accurately determined, it would not invalidate the above facts, though it would furnish a strong argument in favour of the doctrine, that caloric exists in a state of chemical combination; a doctrine which indeed completely solves the present difficulty. But the fact itself has not perhaps been determined with sufficient accuracy; and in the reasoning founded upon it, the quantities of the substances acted on in deflagration seem to have been neglected, a very large quantity of nitre being necessary for the complete deflagration of a quantity of charcoal.

“ The origin of the light extricated in deflagration must be explained in the same manner as its appearance in combustion.

“ From the quantity of azotic gas disengaged in those cases of deflagration in which nitrous salts are used, if the materials be enclosed in a metallic tube, previous to its being kindled, a strong expansive force is exerted, and an explosion takes place, which is still greater where the substance deflagrated is one which, when combined with oxygen, produces a compound existing in the gaseous form. This is termed *Detonation*. There are some cases of it, in which such a quantity of heated gas is suddenly extricated, that the resistance even of the surrounding atmosphere is sufficient to occasion the same phenomenon.”

He next proceeds to the combination of oxygen with hydrogen and azot, then to simple inflammables and their binary compounds; and the first volume is concluded with an account of the undecomposed acids, viz. the muriatic, fluoric, and boracic.

In the second volume he examines the metallic substances, and then proceeds to the consideration of the earths; and having finished this, he considers the nature of mineral waters, which concludes the second part of the work.

The third and last part is taken up with the examination of vegetable and animal substances, in which we meet with equal



perspicuity in the arrangement as in the other parts. In short, we have been highly pleased with this work, which is admirably calculated for the purpose for which it was intended, viz. to serve as a text-book, or manual, for students of chemistry.

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ART. V. *Remarks upon chemical Nomenclature, according to the Principles of the French Neologists.* By RICHARD CHENEVIX, Esq. F. R. S. M. R. I. A. &c. Duodecimo. 246 pages. London. 1802.

THIS ingenious chemist tells us in his introduction, that "it is by no means from a supposition, that excellent works upon chemical Nomenclature do not exist in this country, that the present essay is undertaken. Dr. Pearson has contributed much towards establishing a basis of accurate chemical phraseology in our language. Dr. St. John has presented us with a valuable translation of the original memoirs of the French authors. Many detached observations are to be found in the periodical and other publications. But, from the nature of the subject, from the circumstances under which the systematic language was formed, and from the discoveries which, since its formation, have been made in chemistry, we are not to expect perfection. And, as writers seem frequently to forget the principles upon which the whole system, and the particular appellations derived from it, are founded, it may not be useless to present a view of those errors which are most frequently committed."

He therefore proceeds to point out,

1st. The most common mistakes, arising chiefly from inattention, but, in some degree, from misapplication of the principles.

2d. The terms, which, in the system of nomenclature, proposed in our language, do not seem to be the most apposite to render the French expression. And,

3d. Some denominations, which, in the French system of nomenclature, and in our translation of it, are manifest deviations from the fundamental principles, on which the entire system of methodical nomenclature was intended to be formed.

After laying down the rules according to which the principles of nomenclature ought to be conducted, and which are the same as those given by the committee of French chemists, he proceeds to point out the faults which are most commonly found in the periodical publications and other chemical works, which



which proceed chiefly from inattention, but partly from misapplication of the rules. From this part of the work we shall give a few extracts.

“ In speaking of the gases, it is by no means uncommon to say *oxygenous*, *hydrogenous*, *azotic gas*; thus creating adjectives without necessity. It is perfectly consistent with the idiom of the English language, to join two substantives by a hyphen; and, from their union, to form a new one: as *oak-plank*, *deal-board*, *oxygen-gas*, *hydrogen-gas*, *azote-gas*, are all denominations of the same kind, and would be much more appropriate and philosophical; as we should thus avoid the terminations *eous*, *ous*, and *ic*, which, in the general system, are marked as denoting specific degrees of oxygenization of the acids, and which should be religiously preserved for the purpose, to which they are appropriated.

“ Compound terms to express simple substances are inelegant and diffuse, unless when sparingly adopted, and only under the restrictions to be laid down for old appellations. Hence, *barytic earth*, *strontian earth*, &c. are much better designed by the simple names of *barytes* or *strontia*, &c. *Ponderous earth*, *terra ponderosa*, are useless prolixities. *Barytic lime-water*, *strontian lime-water*, to express a solution of barytes, of strontia in water, are highly improper. In fact, they denote, if any thing, a solution of lime, mixed with barytes or strontia. Such appellations are intrinsically more pernicious, than barbarisms greater even than themselves. *Barytes-water*, *strontia-water*, are, like *lime-water*, the proper terms.

“ *Nitro-muriatic acid* is admissible, inasmuch as it does not offend the principles, and is a better expression than *aqua regia*, formerly in use. But *nitro-muriates* are the names of salts not in existence. When a solution of alkali is poured into nitro-muriatic acid, a nitrate and a muriate, but no nitro-muriate of that alkali is formed. When gold is dissolved in nitro-muriatic acid, and the solution is evaporated, it is a muriate of gold which remains; or a nitrate; or a mixture of both; but no such thing as a nitro-muriate. This is well ascertained by experiment; therefore the name must be expunged from the catalogue of salts.

“ *Antimoniated tartrate of potash* is a faulty denomination. *Antimoniated*, *antimoniate of*, are synonyma; and express the salts of an *antimonic acid*, which does not exist. The French term is, *tartrate antimonié de potasse*. *Antimonié*, accurately rendered, would be, in English, *antimonied*; but



*antimonial* is our usual adjective. Therefore, *antimonial tartrite of potash*—(of *tartrite* hereafter.) Were this the proper place, I should wish that the quality of being acidifiable had not been so liberally attributed to metals, which, in fact, possess but the single acid property of combining with earths and alkalis.

“*Tartrite of soda*, as now applied, is a very improper expression. *Rochelle salt* (which is denoted by *tartrite of soda*) is a triple salt, formed by saturating the acid in super-tartrite of potash by carbonate of soda. It is *tartrite of potash* and of *soda*.”

We are next presented with some observations on such terms in our language as do not seem to be the most apposite to render the French expression. It was a peculiar object with the French neologists to construct such expressions, as might, with easy changes, be received by every nation, where literature flourishes, or the sciences are cultivated. It was intended to be a universal language, which should not require to be translated, but merely modified according to the radical idiom and pronunciation of all that should adopt it. The Germans soon deviated from this intention; they formed for themselves a language, similar indeed in principle, but bearing no resemblance in the individual expressions. This was a much greater impropriety than any that we have been guilty of; for it broke the bond of union, which would, it was hoped, notwithstanding the diversity of language, have, in some measure, brought together the scientific persons of every country. But it must be confessed, that the new chemical systematic nomenclature has, in its original garb, certain advantages, which we have not been able to preserve.

In this part we meet with some judicious observations on the nomenclature proposed by different English chemists, particularly by Dr. Pearson.

“In the sixth column of Dr. Pearson's tables, we find this series of combinations of combustible bodies:

“Carburets or Carbures

Carbureta

Hydro-carbonate gas.

Compounded of Carbon and Metals, &c.

---

“Sulphurets or Sulphures

Sulphureta

Consist of Sulphur and Metals, earthy, alkaline, or other bases,  
Sulphurated



Sulphurated Hydrogen Gas  
 Gas Hydrogenium Sulphuratum  
 Sulphurets, containing Carbon, Metals, &c.  
 Sulphuretum Carbonico Connuptum, &c.

---

“ Phosphorets or Phosphures  
 Phosphoreta  
 Combinations of Phosphorus, with different bases.  
 Phosphorised Hydrogen Gas.  
 Azotic Carbonic Acid, &c.  
 Gas Hydrogenium  
 Phosphorisatum.

“ Here we have a series of bodies belonging to the same genus, viz. combinations of combustible bodies one with the other. The first fault is the unnecessary conversion of *u* into *o* in *phosphorets*; this change originated in the *o* of the penultimate of phosphorus; but *phosphuret* is a contraction of *phosphor-uret*; as *caruret*, of *carbon uret*.

“ *Hydro-carbonate* gas (sometimes called simply *hydro-carbonate*) is of much more serious consequence. *Carbonate* is the generic name for salts composed of *carbonic acid* and a basis. *Hydro* implies a combination of water, as has been already stated for *hydro-oxide*, or *hydroxide*. Therefore a *hydro-carbonate* means a carbonate combined with water; but *hydrocarbonate* of what? The sentence is left incomplete in this sense; for the term, which, in fact, denotes a genus of salts composed as before said, is applied to a combination of hydrogen gas and carbon.

“ This fundamental error being adopted in the first species, we might expect to see it propagated throughout; but in the next we see *sulphurated hydrogen*, and not *hydro-sulphurate gas*. This is the more extraordinary, as, in the Dissertation, page 7, Dr. Pearson gives this substance a very proper denomination in *sulphuret of hydrogen gas*. In page 56 he has again written *sulphuret of hydrogen gas*, and adds, or *sulphurated hydrogen gas*; thus deriving, as it were, *sulphurated* from *sulphuret*. There was, however, a more natural participial adjective, and one that would have been much more proper; but I must not anticipate any part of another chapter.

“ To avoid uniformity, the third species receives the name of *phosphorized hydrogen gas*. Every one of these names is reprehensible.

“ In the same enclosure with *phosphorized hydrogen gas*, we find *azotic carbonic acid*. This, besides being unmethodically placed



placed in this genus, devoted to the combination of simple combustible bodies one with the other, and without the intervention of oxygen, is a faulty denomination. There is no combination in this case, but simply a mixture of azote and carbonic acid. To give a name to every mixture, as if it were a compound, would be unphilosophical, and would involve nomenclature in endless perplexities.

“ In the third column we find the combinations of azote with oxygen thus denominated, according to their different stages of oxygenizement: *Oxid of nitrogen, nitrous oxide, nitrous acid, nitric acid*; and, in the fourth column, *gaseous oxide of azote, nitrous oxide gas, nitrous acid gas, nitric acid gas, oxy-nitric gas*. To all intents and purposes, if faith can be placed in nomenclature, *oxide of nitrogen* and *nitrous oxide* are one and the same thing; better denominated however, as shall presently be shewn, by the former name. *Gaseous oxide of azote* and *nitrous oxide* are in the same predicament.”

After having passed some very just censures on Dr. Pearson's Tables of Nomenclature, our author proceeds to offer remarks on Dr. Dickson's Essay; after which he examines with much candour Mr. Kirwan's paper on chemical and mineralogical nomenclature. He then presents us with observations on some parts of chemical language, which do not properly come under the head of nomenclature. In this part he gives his reasons for using the word oxygenizement instead of oxydation; but let him speak for himself.

“ The language of chemistry, with regard to its practical purposes, may be divided into two heads. Besides the terms which are applied and appropriated to chemical bodies, there is a technical language which is used to express the mutual relations of those bodies, and to form the connexions of chemical discourse. Such language must be similar to that frequently occurring in common life. But, in describing the higher operations of scientific chemistry, some of the words employed must have an origin and an import totally different from general phraseology. I have offered such observations upon the names of chemical bodies as were consonant with the nature of this essay; with the present state of chemical knowledge, and of chemical language; and with my previous resolution not to take upon myself the alteration of any principle.

“ I shall now enter upon a new consideration, and turn to that part of chemical language, which serves as the means of conveying our ideas concerning those substances, the denominations of which have hitherto been the subject of this essay.

“ It



“ It is very evident, that, in such terms as approach near to common language, the philosopher cannot plead an exemption from common forms. But as the abundance of new facts, and of new substances, have exacted that a number of words should be created, and that some old ones should be received in a more extensive sense, it was necessary that both should be restricted, by such analogies, as might bring them to the general standard. In the formation of this new chemical language, very few alterations have been made in any of the old words; and no new ones have been created, except in cases where new ideas required new symbols. To give an example; the word *combustion* is now received, in chemistry, in a more general sense than formerly; and *oxygenation* is a new term, from the observation of a newly discovered fact.

“ In the construction of new terms, a little more liberty has been taken; and, indeed, when the language of science deviates from the language of the vulgar, the philosopher does well to assert his right, and to secure his mode of expression against the popular corruption, which must ever influence the terms of ordinary discourse.

“ The greater part of these new expressions have been translated into our language from the French. The advantages and the errors are, in some instances, common, although it must be confessed, that, in others, we have not chosen that mode of translation, which would have been more congenial both to our language and to the principles of the systematic nomenclature.

“ The term *combustion* was formerly used to denote that change in a certain class of bodies, which was rendered sensible by an evolution of light and of heat. The burning of coals in our fire-places, for instance, was one of the principal operations of combustion. However, since the phenomena that attend it, have been better understood, it has been received in a much more general sense; and every case, wherein a body absorbs oxygen, whether slowly or rapidly, has been termed combustion. It seems, therefore, that the term has been extended from the species to the genus; and I do not think that the language has acquired either force or precision from this liberty\*.

“ *Combustion*

\* “ In a paper, which the very learned editor of the *Bibliothèque Britannique* has translated into his *Journal*, I have used the word *combustion*, in this general sense. Mr. Pictet very properly objects to such



“ *Combustion* is, in fact, the combination of oxygen with such bodies as are capable of combining with it. But there is a term in the French, and from that, translated into our language, which expresses the fact with greater propriety. *Oxygenation*\* is a more congenial term to express this operation. *Oxygenation* (or better *oxygenizement*) is, more properly than *combustion*, the act of combining *oxygen* with all bodies, by which it is attracted. This comprehends all the varieties of the fact, both as to modes and degrees. Whether the combination be performed rapidly or slowly, with the disengagement of light and heat, or without any such sensible effect, the term *oxygenizement* expresses it clearly in the general sense; and is not responsible for the mode or condition of the fact. Whether the result be an oxide or an acid, *oxygenizement* simply states the fact of combination, without entering into the question of the effect produced by the quantity. *Oxygenizement* seems to possess every quality of a generic term, and is well adapted to denote the fact in its most extensive signification. But *oxygenizement* is capable of being performed after two modes; and its result is also twofold. Either light or heat is emitted during *oxygenizement*, or they are not emitted; and the result is either an *oxide* or an *acid*. When light and heat are not emitted, the generic term must be used in a specific sense; and *oxygenizement* is again the proper expression. Thus the conversion of sulphur into sulphuric acid, by the means of nitric acid (as was the case with what, in the paper alluded to, I had improperly termed *combustion*) is an *oxygenizement* as to the mode; and the conversion of sulphur into sulphuric or sulphureous acid, in oxygen gas, being accompanied by the emission of light and heat, although an *oxygenizement*, with regard to the generic fact, is a true *combustion* as to the specific mode.

“ In the same manner, the conversion of phosphorus into oxide, as well as its conversion into an acid, is an *oxygenizement*. But although the fact be generic, the result is different; for, in one case, the specific name, as to the degree or result,

an application of it, and offers his reasons on the subject. I have done little more, in this place, than develop the ideas of this author, which he could not do in the compass of a note.

\* “ I have hitherto, when speaking on my own account, used *oxygenize* and *oxygenizement*; and should have done so here, but that I am speaking of the word which *has been* adopted. I shall presently state my reasons for the preference I give to *oxygenize* and its derivatives. In the following sentences I have used *oxygenizement* both for the sake of uniformity and propriety. It means the same as *oxygenation*.”



is an *oxidizement*; in the other, an *acidification*. To give an example of the whole series of expressions, we may take this combustible body, and say, the conversion of phosphorus into phosphoric acid, by inflaming it in oxygen gas, is an *oxygenizement*, as to the generic fact; a *combustion*, as to the mode; and an *acidification*, as to the degree. And the formation of the same acid, by means of nitric acid and phosphorus, is an *oxygenizement*, as to the specific mode, and an *acidification*, as to the degree. I know, that the term *oxygenizement* being used, both in a generic and in a specific sense, is an objection to this series. But I have mentioned it particularly, in order to expose the defects of chemical nomenclature.

“ For the same reason, I do not think that it is proper to term all metals *combustible* bodies. Iron indeed is *combustible* in oxygen gas, but it is little more than *oxygenizable* in atmospheric air. And the epithet *oxygenizable*, is suited to all bodies, which do not emit flame and heat, during their union with oxygen.

“ Throughout this essay, I have, when speaking on my own account, and in my own name, made use of the word *oxygenize*, and its derivatives, in preference to *oxygenate*, and its derivatives. I shall now state my reasons.

“ *Oxygen* is of Greek extraction; and although it be fully naturalized, we cannot so far disguise its origin, as to inflict upon it a termination, that shall make its progeny a hybrid. *Ate* is the termination, which we have generally given to words, derived from the Latin. We have in English, eight hundred and twenty-eight\* words, terminating in *ate*; and of these the greater number, whether originally Latin or not, have been received, by us, from that language. We have one hundred and twenty-two words, terminating in *ise*, and one hundred and six in *ize*. The greater part of them are of Greek extraction. The Greeks had a verb  $\acute{o}\xi\iota\zeta\omega$  or  $\acute{o}\xi\iota\zeta\omega$ , *acidus sum*. Therefore, we have fact as to the root of this very individual word. For these reasons, therefore, *oxygenize* is a preferable word to *oxygenate*, as the termination and the word are formed by similar analogy.”

The next chapter is on the system of chemical signs or characters; and the work is concluded with some very judicious observations on the system of chemical nomenclature proposed by Brugnatelli. In short, we have no hesitation in

\* Vide Walker.



recommending this little work as a very useful book to the student of chemistry, and as instructive even to the experienced chemist.

## FOREIGN BOOKS.

ART. VI. *Grundiso der Chemie, nach den neuesten Entdeckungen entworfen, &c.: i. e. Elements of Chemistry, agreeably to the new Discoveries.* By T. A. GREN. Second Edition, enlarged. Vol. I. & II. Octavo. Halle.

THE work of Gren having been some time before the public, we shall here only point out the additions in this new edition. The article *Acids* has been increased by two new species discovered since the first edition—acid of *chrôme* and acid of *mélinite*. In the article of *simple earths* the *austral* earth has been omitted, because, from the experiments of *Klaproth* and *Hatchet*, it appeared to be composed only of siliceous and argillaceous earths; it has been replaced by the *glycine* earth, which *Vauquelin* discovered in the beryl and emerald. At paragraph 284 a remark has been added, that alkali forms a constituent part in many fossils; and in paragraph 400 we are told, that alkali forms a constituent part of alum: in the same paragraph, the constituent parts of this triple salt are given from the analysis of *Vauquelin*, which, in the first edition, had been taken from that adopted by *Bergman*.

We shall not notice many other less important alterations; we must, however, regret, that we do not find herein some new discoveries, as, for example, that of *Berthollet* on the hepatic gas, &c. &c. and under the article *Weight* he ought to have noticed the new French weights.

In the second volume the paragraph N<sup>o</sup> 1116 is augmented with the article *Elastic Gum*, and the 1121st with many kinds of coal and *houilles*. Among the carbonic substances of the mineral kingdom we find also the diamond, and the experiments of *Guyton*. In paragraph 1164 we find an observation, that one part of plumbagine will analyze ten parts of saltpetre, while the same quantity of vegetable coal will only alkalize five parts.

The article *Metals* has received the most important augmentations by the addition of two new metals, *chromium* and *tellurium*, the description of which fills twenty-three pages. In paragraph 1266 there is an addition, saying, that the acid of  
chromium



chromium may be employed in preparing *aqua regia* instead of the nitric acid. We find also, paragraph 1749, that *molibdena*, in its natural state, does not present the metal of pure molibdena, but a mixture of the latter with sulphur, and that the sulphur may be extracted from it by dissolving the molibdena in boiling marine acid, and by adding, by little and little, the nitric acid.

[*Journal Gen. de la Lit. Etrangere*, N<sup>o</sup> II. Année 10.

ART. VII. P. CAMPERS *Vermischte Schrifften*: i.e. *The miscellaneous Works of PETER CAMPER, concerning Medicine, Surgery, and Midwifery*. Translated and selected from MSS. 648 pages. Octavo. Lengen.

THIS collection contains the works in medicine and surgery of the celebrated Camper, which are not contained in the edition published by Crassius at Leipsic. Many of these memoirs now appear for the first time. We shall point out the subjects. Those who know the first edition, or the original, will easily distinguish those which are new, from those which have been already in print. 1. Of the Fracture of the Rotula of the Knee and the Olecranon; with an Addition on the Fracture of the Bone of the Elbow—2. Observations concerning Childbirth: these observations are divided into six sections, relating to the various cases, instruments, &c.—3. On the Section of the Symphysis, in a Letter from the Author to M. Von Gescher, shewing the little Use of that Operation—4. Of the Head of the Child embarrassed, and of the Use of the Lever of Rhoonkhuys—5. Section of the Symphysis practised twice on the same Woman—6. Additions to the Observations on Childbirth—7. A Treatise, legal and anatomical, on the Signs of Life and Death in new-born Children.—8. Observations on Child-murder, its Causes, on Suicide, and on the Advantages of Foundling Hospitals—9. On the Treatment of new-born Children—10. Of the great Mortality at Harlingen in the Year 1799—11. Observations on the Cancer of the Lips and the Poitou Colic—12. Observations on the Callus of fractured Bones—13. Surprising Restoration of a Nose and Throat affected by a Caries—14. On the Signs of anatomical Subjects, in a Letter to M. Albinus.

The engraving of the plates might have been done with greater care.

[*Journ. Gen. de la Lit. Etrang.* N<sup>o</sup> II. Année 10.



ART. VIII. BLUMENBACHII J. F. *Decas quarta: Collectiones suæ Craniorum diversarum Gentium illustrata.* Quarto. 16 pages. With ten plates. Goettingen.

THE idea of collecting the skulls of persons of different nations, to observe the resemblances and their characteristic differences, belongs originally to the learned *Camper*, whose path Blumenbach has pursued with success. Since 1790, the period in which the latter published the first Decade of his work, his Collection has been augmented by many skulls brought from different parts of the world; and there are some that may serve as monuments of times past, and even interest the historian in that respect.

The present number begins with a memoir on an *Egyptian Mummy*. The author has found under the resinous covering of the fragments of the skin some traces of a beard, which point out the subject to be a man, and proves, contrary to the common opinion, that all mummies were not of the feminine gender.

In the second memoir, N° 32, he speaks of a skull of an *old Roman soldier*, whose skeleton had been found under the ruins of the *Castrum Prætorianum*, which was accompanied by a marble tablet, on which was engraved V. L. ALEJUS. This skull, sent to the author by Cardinal *Borgia*, presents the finest form without any trace of the suture which reunites the maxillary bones.

N° 32 is the skull of a *Tschudi*, taken from an ancient tomb in Siberia. The conformation of this skull points it out to be that of a youth, and the chemical examination proves that it must have remained a long time under ground.

N° 34 is the skull of a *Jew*, who had lived to the age of 100 years. In the conformation of the bones, the peculiar physiognomy of the Jew was still to be discovered.

N° 35 is the skull of a *Persian*. This specimen is of a person advanced in age, and resembles much that of the Georgian described in the second Decade. The *coffre* is spherical, the forehead well arched, and the nose saillant and of a fine form.

N° 36, the skull of a *Greenland man*; and N° 37, of a *Greenland woman*. These two skulls are of considerable size, the bones of which are very thin, considering their length and breadth; the vestiges of suture of the os frontis were still to be seen, the cavities of the eyes were very large, and the bones of the nose long and straight.



N<sup>o</sup> 38, the skull of an *American Illinois Indian*, found on the eastern shore of the Mississippi; N<sup>o</sup> 39, the skull of a *man from the island of Java*; and N<sup>o</sup> 40, that of an *inhabitant of New Holland*; one of which had been already given in the third Decade: it is known to be the skull of a man from the alveola of the superior incisor on the right side being closed, which tooth is drawn from the jaws of young persons of that country at the time they are declared of the proper age to carry arms.

[*Journ. Gen. de la Lit. Etrang. N<sup>o</sup> II. Année 10.*

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ART. IX. *Lehrbuch der Nosologie: i. e. Elements of Nosology.* By Dr. ROESCHLOUB. In two Parts. Large octavo. Ramberg.

**B**BROWN's system has had a marked influence on medical science, and particularly on the nosology, or theory of disorders. Our author has undertaken to treat that part of medicine agreeably to the principles of Brown, and to pursue the application much farther than has been done hitherto, as well for maladies called exterior as for those that are interior.

The author however, at the same time, informs us, that he has not literally followed the new principles of the English physician; but that he has often analyzed and compared them with those of speculative medicine, in order to make them apply to the origin of disorders.

It is to fundamental nosology, particularly as to the origin and phenomena of disorders, that he has devoted this work; their particular developements will form the subject of another volume. He tells us, that, to comprehend his ideas clearly, it will be necessary to abandon certain prejudices which have been hitherto entertained in medicine and physiology, and to be well acquainted with the details of animal organization, and of the laws which control it, since it is the derangement of those laws which constitutes the beginning of diseases.

This work is divided into two parts: the first contains what Gaubius calls *pathology*; and the second, the elements of physiology.

[*Journ. Gen. de la Lit. Etrang. N<sup>o</sup> II. Année 10.*



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